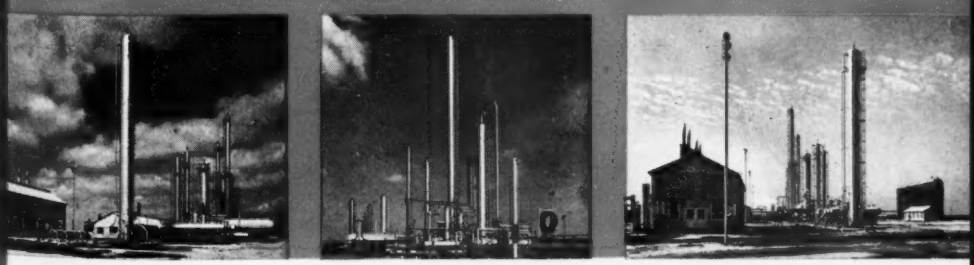
BUTANE-PROPANE News

HEADQUARTERS FOR LP-GAS INFORMATION SINCE 1931

Technology

STACK



APRIL, 1947

make this great cylinder better than ever!

LEGIBLE, NEAT STAMPING. This new method of stamping is made possible by a depth controlled process developed for Hackney Cylinders by Pressed Steel Tank Company. The result is accurate, uniform and easily read.

NEW IMPROVED APPEARANCE. Today's Hackney Cylinder is more attractive than ever . . . not only because of the new stamping but because it incorporates an improved weld, the new "scalloped" foot ring and a new cleaning procedure. This accomplishes complete descaling and thorough cleaning of the cylinder surface. As a result, there's a better bond between paint and cylinder or a better surface for galvanizing. Naturally, the cylinder retains its good looks longer.

AND REMEMBER, you are still getting the same great cylinder . . . which is preferred in the industry. The same great cylinder with its many star features . . . two-piece construction, X-ray controlled welding, minimum seam area, special heat-treating after fabrication, a perfect balance between adequate strength and light weight.

Hackney

Pressed Steel Tank Company

Manufacturers of Hackney Products

Main Office and Plant: 1487 South 66th Street, Milwaukee 14

1399 Vanderbilt Concourse Bldg., New York 17 • 227 Hanna Bldg., Cleveland 15

552 Roosevelt Bldg., Los Angeles 14 • 208 S. La Salle St., Room 2069, Chicago 4

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

Take your pick

FROM THE FINEST MOST COMPLETE LINE OF

LP-GAS Meters

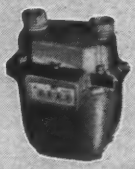
No. 00
Gas Meter

ROCKWELL-EMCO No. 00 METER

Especially designed for measuring LP-Gas. Smaller and lighter than conventional designs. Has aluminum alloy case housing double diaphragm measuring unit. Capacity approximately 90 cfh at ½ in. absorption of 1.5 sp. gr. gas. Use on bottle and tank gas settings. Ask for bulletin No. 1163.

EMCO No. 0, 1 AND 2 METERS

For measuring domestic and commercial consumers drawing upon town distribution systems. No. 0 meter made with pressure cast aluminum alloy case, light weight, durable. Larger sizes have cast iron cases. All Emco meters feature interchangeable group assemblies to simplify service. Ask for bulletins No. 1000 and 1100.



No. 0
Gas Meter

No. 4
Meter with
Emcorector

EMCO No. 2½, 3 AND 4 METERS

Designed for measuring large volumes of either high or low pressure LP-Gas such as those generated by a central gas plant or consumed by industries. Strong outer cases provide high safety factor. The easiest meters to repair. May be fitted with gauges to calculate to any base pressure, volumes measured at higher pressures. Ask for bulletin No. 1003.

EMCO No. 4½ AND 5 METERS

Installed singly or in multiples, these meters are widely used to measure the entire output of central LP-Gas plants. Made with pressed steel cases for safety. Tall, slender design occupies but a minimum of space. Optionally furnished with Emcorectors or Combined Record Gauges to calculate to any base pressure volumes measured at higher pressures. Ask for bulletin 1033.

No. 4½
Meter with
Emcorector

PITTSBURGH EQUITABLE METER DIVISION

Rockwell Manufacturing Company, Pittsburgh 8, Pa.

Atlanta Boston Chicago Houston Kansas City Los Angeles
New York Pittsburgh San Francisco Seattle Tulsa

CONTENTS April, 1947

BUTANE-PROPANE *News*

Reg. U.S. Pat. Off.

Editorial

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LYNN C. DENNY, Editor
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O. D. HALL, Mid-Continent Editor
FREDERICK L. DALTON, Art Director

Executive

JAY JENKINS, President and Publisher
JAMES E. JENKINS, Secy.-Treas.

Publication Office

LOS ANGELES (14)—1709 W. Eighth St.
Phone: DRexel 4337

Branch Offices

CHICAGO (3)—1064 Peoples Gas Bldg.
Phone: WAbash 2589
DAVID CARMEN, Manager

NEW YORK (17)—52 Vanderbilt Ave.
Phone: MUrray Hill 4-1880
GERARD A. REGAN, Manager

DALLAS (1), TEXAS — 301 Southland Life Bldg. Phone: Central 4585
ROBERT B. FARSON, Manager

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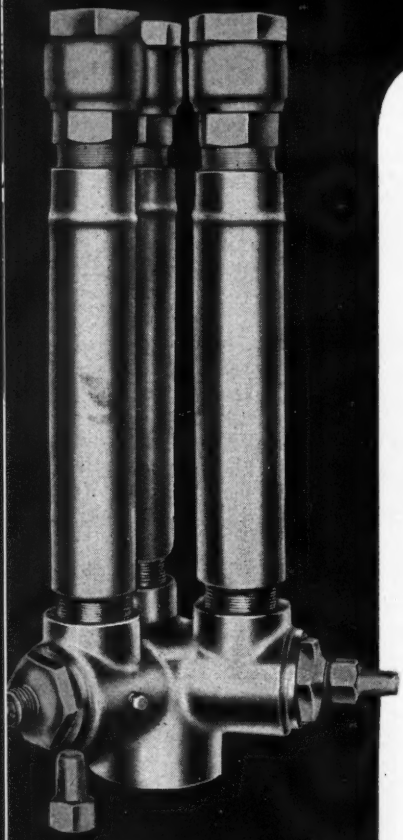
Complete Protection

AT ALL TIMES



R-709 2-Port 2" I.P.S. female inlet

R-710 3-Port 3" I.P.S. female inlet

R-711 4-Port 4" I.P.S. female inlet

Are your large storage tanks adequately protected? The Roney Multiple Relief Valve Manifold is so constructed that "Complete Protection" is assured at all times to large butane or propane storage tanks. It is a compact type manifold which permits the grouping of several relief valves in a single connection, thus making it possible to remove one or more valves for repairs or replacement without hazard and without emptying tank.

CONSTRUCTION DETAILS

This manifold is designed for use with a Roney No. R-2817 Relief Valve, having an effective area of 2.2 sq. in. in either 2, 3 or 4 valve combinations, thus giving a total area of 2.2, 4.4, 6.6, or 8.8 sq. in. with a single tank connection. The presence of ¼" I.P.S. female openings into each valve chamber permits the use of air or carbon dioxide gas pressure in retesting. Fewer openings in the tank are necessary. Valve stems are packed with hydrocarbon resisting packing. Independent shutoff valves to each relief valve compartment are interlocked so that only one valve may be closed at a time.

For Complete Line of Butane-Propane Equipment
LOOK TO RONEY

L. C. RONEY INC.
511 S. REDONDO BLVD. ★ INGLEWOOD, CALIF.

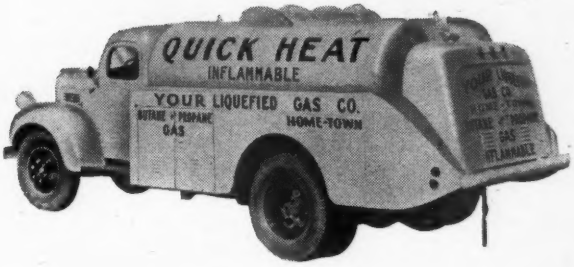
ANCO

Announces Distribution of

Butler Built

Truck and Transport Tanks

for Better Living



Sell and Tell as You Deliver Greater Strength—Greater Safety

Smartly styled . . . designed to meet the specific demands for L-P-G dealers for delivery over highways and service to customers. Exclusive patented features in strength and safety make them the most widely used in L-P-G transportation.

Anco Products

Storage Tanks
Truck Tanks
Systems, Domestic (all Sizes)
Pacific Tanks
L.P.G. Bottle
Deep-Fat Fryers
Hot Plates
Floor Furnaces
Small Space Heaters
Propane Pumps
Regulators
Valves and Fittings
L.P. Gas Hose

ANCO

ANCO

Manufacturing and Supply Co.

Atlas Life Bldg. Tulsa, Okla.

LETS PUT OUR HEADS TOGETHER

...FOR LOAD-BUILDING PROFITS...!

PIPELESS FLOOR FURNACE

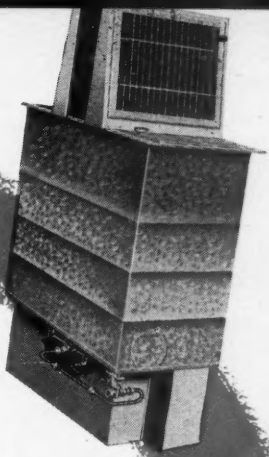
Pacific

Famed before the war as a pioneer of compact, sturdy and efficient gas appliances, Pacific is back, with a crack line-up of *L. P. Gas* engineered heating equipment. Truly outstanding efficiency born of a dozen exclusive Pacific features...a thirty-four year name with which you can spearhead a substantial load-building program for your own community.

THERMOLATOR VENTED CONSOLE

NATIONAL ADVERTISING—

Pre-sells your customer on the merits of Pacific, in leading domestic magazines... teaches the customer to "Be specific...demand Pacific."



IS BACK!

DUAL WALL FURNACE

Pacific builds all popular designs in vented heating equipment: Thermolator Console Heaters, Floor and Dual Wall Furnaces, Gravity Furnaces, Winter Air Conditioners, Suspended Units and Duct Furnaces.

If you are ***ready for action,*** you owe it to yourself to investigate Pacific's franchise and what it offers the L. P. Gas Dealer.

Write us today for prompt, full particulars.

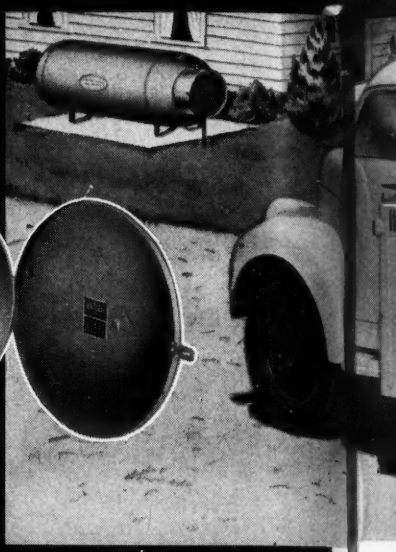
WINTER AIR CONDITIONER

PACIFIC

NACO MANUFACTURING CO.

Pacific Heater Division

P. O. Box 310, Huntington Park, California

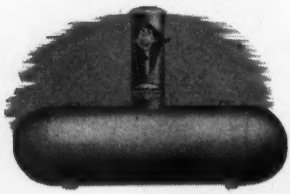


20% MORE STORAGE CAPACITY
at the Point of Consumption

CUTS DOWN YOUR DELIVERY COSTS!

Farsighted dealers welcome the greater storage capacity of Butler L. P. G. Systems as a savings to them on deliveries as well as an unrivaled feature of satisfaction to purchasers.

• Because rated capacity is based on liquified petroleum gas instead of water, Butler Systems have 20% more actual gas capacity —you make bigger deliveries on each trip —you deliver as much in 5 trips as you otherwise would in 6. Butler-Built Above-ground Propane Home Systems are the world's most advanced in design and construction . . Sizes for every installation.



BUTLER Underground Butane — Propane Home Systems

200 lbs. WORKING PRESSURE

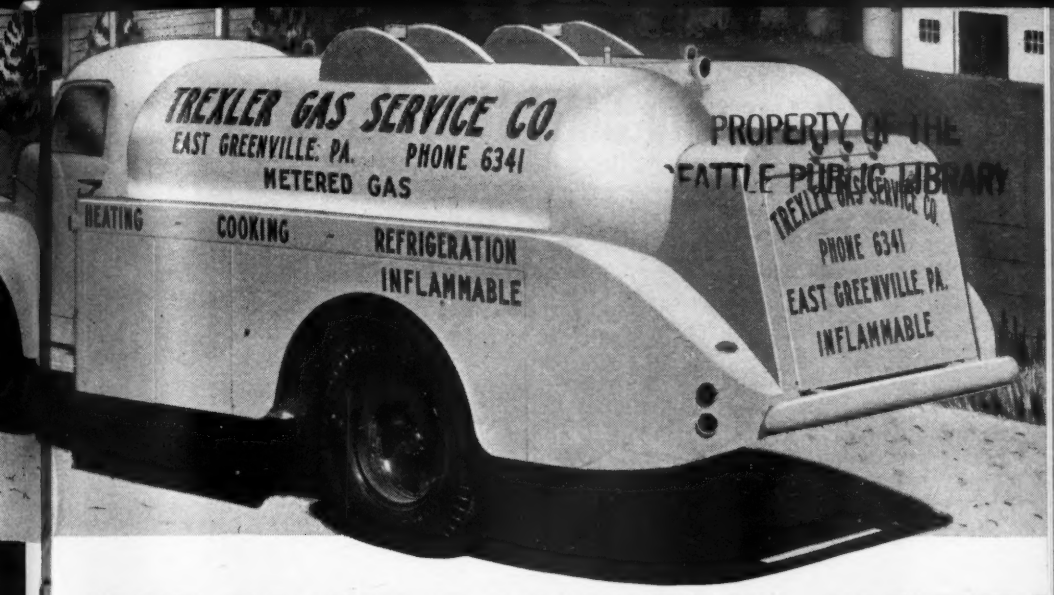
Latest in design, construction and principle of operation. Sizes to meet every need.

AVAILABLE NOW FOR PROMPT SHIPMENT

BUTLER BUILT
Reg. U. S. Pat. Off.

L. P. GAS

IOME SYSTEMS, TRUCK AND TRANSPORT TANK



KEEP UP WITH INCREASING DEMAND!

Expanding L. P. G. Markets call for the Newest, Safest, Equipment

Number 1 Postwar Plan for millions of American homes is installation of L. P. G. Systems. With prompt deliveries now possible, the up-surge in demand for liquified petroleum gas means that dealers who are prepared for dependable delivery service with modern equipment will get permanent lifetime customers.

Smartly styled Butler-Built truck tanks meet the specific demands for home service with the same efficiency and safety as do Butler-Built transport tanks for over-the-highway service. The Patented pressure and load equalizer . . . distinguishing hemispherical heads in the twin-tanks . . . these are exclusive features in safety and strength found only in Butler-Built truck and transport tanks.

PROTECTE
by Patents

The pressure and load equalizing feature, as well as other features of Butler Twin-Tank Safety Transports, is protected by letters patent. Infringements will be prosecuted.

BUTLER MANUFACTURING COMPAN

FACTORIES: KANSAS CITY, MISSOURI • GALESBURG, ILLINOIS • MINNEAPOLIS, MINNESOTA

For Prompt Handling, Address All Inquiries to:
BUTLER MANUFACTURING COMPANY, East 13th Street, Kansas City, Missouri

SEND INFORMATION ON: ☐ Aboveground System ☐ Underground System
☐ Butler L.P.G. Truck Tanks ☐ Butler L.P.G. Transpo

FIRM NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

The Mark of BUTLER Better Quality

Why is the SMITHway Combination

for butane or propane—safe...dependable...economical

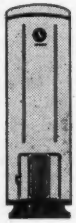
SMITHway SYSTEMS ARE SAFE! They meet *or exceed* all safety codes. Each SMITHway System is double-inspected in detail by an independent licensed insurance inspector. Each SMITHway System bears the U-69 seal of approval, the Society of Mechanical Engineers' code for storage pressure vessels which meet all safety standards and underwriters' laboratories requirements.

SMITHway SYSTEMS ARE DEPENDABLE! For 73 years the A. O. Smith Corporation has pioneered in the development and the manufacture of welded steel products which are recognized for excellence the world over.* In the manufacture of SMITHway *Combination* LPG Systems, A. O. Smith uses procedures and standards heretofore reserved for only the most exacting industrial service.

SMITHway SYSTEMS ARE ECONOMICAL! They are permanent investments, produced from the highest quality materials for long life and trouble-free service. A SMITHway LPG System starts paying for itself the moment it is installed. ONE unit, using either butane or propane, supplies ALL the gas needed for ALL gas uses.

FHA APPROVAL! In most cases, a convenient FHA loan may be arranged so that users can supplement their present LPG system, replace their present system, or finance the initial installation of a SMITHway *Combination* LPG System. Check your local authorities for details.

The A. O. Smith Corporation manufactures *Permaglas* LPG Water Heaters with mirror-smooth tanks of sparkling blue glass-fused-to-steel. They *cannot* rust!



Many present LPG systems are made for use with butane only. But the SMITHway Combination System accommodates *either* butane *or* propane with equal safety. This distinct advantage is a valuable form of insurance, because it permits switching to whichever fuel is currently lower priced and more readily available.

BE SURE YOUR LPG SYSTEM CAN BE USED WITH *BOTH* BUTANE AND PROPANE

*Makers of Auto Frames, Pressure Vessels, Line Pipe, Oil-Well Casing, Brewery Tanks, Welding Equipment, Stokers, Permaglas Water Heaters, Centrifugal and Deep-Well Turbine Pumps

LPG System So Popular Today?

Because it's a combination system!

A SMITHway LPG System accommodates either butane *or* propane — whichever is lower priced and more readily available.

Because it provides ample storage!

SMITHway LPG Systems have capacities of 250, 375, 500, 1,000 gallons, and larger. They enable owners to store surplus LP gas in summer against possible winter shortages.

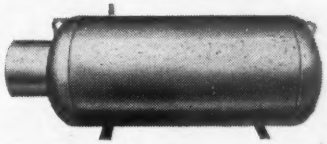
Because of quick delivery!

Present production of SMITHway LPG Systems — over 200 a day—can be rapidly expanded to meet growing needs. Adequate stocks of standard sizes are usually ready for immediate delivery.

SMITHway Combination LPG SYSTEMS AVAILABLE IN BOTH ABOVEGROUND AND UNDERGROUND TYPES

Aboveground type (right) comes complete with heavy integral flange supports. Easy to install anywhere.

Underground type (opposite page) minimizes freezing in the coldest weather. Require absolute minimum of maintenance.

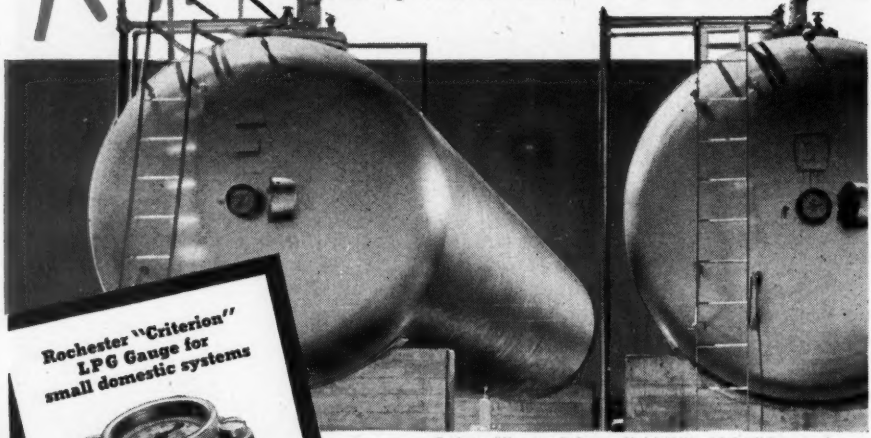


A.O. SMITHway Smith

A. O. SMITH Corporation

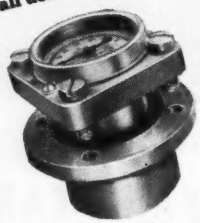
ATLANTA 3 • CHICAGO 4 • DALLAS 1 • HOUSTON 2 • LOS ANGELES 14
MIDLAND 5 • NEW ORLEANS 18 • NEW YORK 17 • SEATTLE 1 • TULSA 3
INTERNATIONAL DIVISION: P. O. BOX 2023, MILWAUKEE 1

Ruggedness . . . WHICH ADDS UP TO SAFETY FOR OVER 750,000 LP GAS USERS!



Rochester "Magnetron" Gauges (Model 3142) with 8" dials are used on this propane gas installation of Sacra Bros., Roswell, New Mexico

Rochester "Criterion" LPG Gauge for small domestic systems



Model 3120 with new welded flange simplifies and lowers cost of installation.

WHY ROCHESTER USES GLASS CRYSTALS

Glass doesn't scratch easily or discolor. Neither does it shrink and shatter. If, for any reason, it is necessary to replace a crystal, it is unnecessary to drain the tank and remove the gauge. Rochester's removable dial eliminates all this.

. . Underwriters' Listed . . . Rochester LP Gas Gauges 1st choice on performance!

Highly volatile gases and guesswork don't mix. That's why Rochester LPG Gauges are so ruggedly engineered. Whether you require "Magnetron" Gauges for large bulk storage tanks or "Criterion" Gauges for small domestic systems, all parts are made with a factor of safety several times actual requirements.

1. Accurate gauge movement is actuated by two permanent, non-electric magnets which keep pointer action true.
2. Flange and dial chamber are made of heavy forged brass. There is no shaft connection between float mechanism and dial which makes *all Rochester* Gauges leakproof.
3. A tubular shield surrounds the center shaft, protects all moving parts during transit, installation and use.

For all around ruggedness and safety, specify Rochester Gauges.

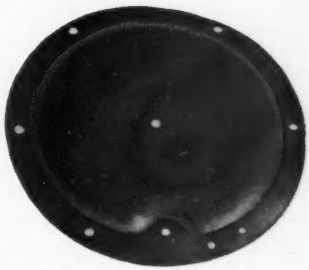
ROCHESTER MANUFACTURING CO., INC.
17 Rockwood Street • Rochester 10, New York

Rochester **ENGINEERED INSTRUMENTS**
Guaranteed Accuracy
LIQUID LEVEL, TEMPERATURE AND PRESSURE GAUGES

Meters and regulators for LP gas need the special characteristics which only VULCAN diaphragms afford.

Butane, propane and combinations of these gases tend to dry out and cause brittleness of leather diaphragms. This adversely affects accurate operation and causes costly replacement problems.

VULCAN diaphragms are scientifically controlled manufactured products. These non-leather diaphragms are molded to required shape. They remain soft and flexible for years, yet they REQUIRE NO OILING. For meters, regulators and governors, insist on VULCAN diaphragms.



VULCAN

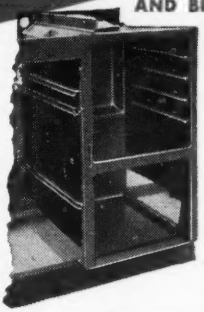
PROOFING COMPANY

FIRST AVENUE & 58th STREET • BROOKLYN 20, NEW YORK

These FEATURES explain the OVERWHELMING PREFERENCE FOR NORGE RANGES IN THE LP FIELD

FEATURE No. 3

ONE-PIECE, TANK-TYPE OVEN AND BROILER



A masterpiece of design and construction, a marvel of efficiency—that's the one-piece, tank-type oven and broiler lining in the Norge gas range. It is encased in a continuous blanket of Fiberglas insulation; interior finished in black porcelain enamel; equipped with pressed-in rack guides and non-tilting, removable oven racks; is smooth-surfaced throughout, and especially easy to clean. Check this and the other Norge gas range features against the field—you'll be more convinced than ever that the greatest value lies in Norge!

MODEL N-401

Adaptable to bottled, artificial or natural gas

FEATURES

1. Spiro-Speed burners
2. One-piece cooking top and back-rail
3. One-piece, tank-type oven and broiler
4. Click simmer valves
5. Oven heat control
6. Extra-thick insulation
7. Flush-to-wall design

A BORG-WARNER INDUSTRY

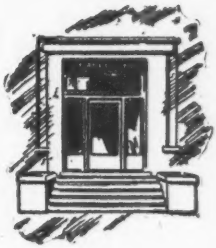
Norge is the trade-mark of Norge Division, Borg-Warner Corporation, Detroit 26, Michigan. In Canada: Addison Industries, Ltd., Toronto, Ont.

SEE NORGE BEFORE YOU BUY

KITCHEN PLANNING—One of the important research projects of the Servel Homemaker's Institute is the planning of up-to-date kitchens to save walking, stooping. Starting with an entirely fresh approach to the problem of reducing kitchen work-hours, it will soon announce an entirely new concept of kitchen planning that offers a practical answer to many everyday problems of efficiency.

on at SERVEL'S NEW HOMEMAKER'S INSTITUTE

AMERICA'S GREAT NEW



"HOME EC" CENTER

Just about a year ago, the new Servel Homemaker's Institute opened its doors at Evansville, Ind. Since then, a growing staff has been constantly at work here helping build the prestige of the L-P Gas Industry.

Organized in three divisions—Home Economics, Kitchen Planning, Test Kitchen—its research has been fanning out in many directions. Problems of nutrition are natural for this group, for Servel, maker of the L-P Gas Refrigerator, has always been interested in new developments in food and food use. Here has been initiated a fresh approach to the planning of modern kitchens, to bear results in the new Servel Unified L-P Gas Kitchens.

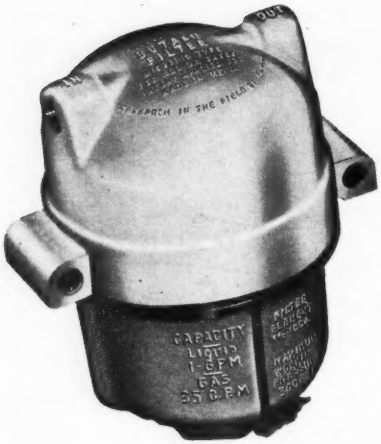
To tell you what is going on in the field, the Institute is issuing timely bulletins. First is the monthly Newsletter—brief, newsy, filled with facts.

For professionals and homemakers alike, the Servel Homemaker's Digest is issued by the Institute four times yearly. It gives a quick condensation of articles of household interest from leading home and women's publications—Good Housekeeping, Woman's Home Companion, House Beautiful, Better Homes and Gardens, House and Garden, Parents', Woman's Day, Family Circle.

The Servel Homemaker's Institute will continue to be alive to the needs of the L-P Gas Industry today.

PUBLICATIONS—The monthly Servel Newsletter and the quarterly Homemaker's Digest bring news of interest to both professionals and consumers.

Servel
INC.
EVANSVILLE 20, IND.



NOW

What the LP Gas Industry Demanded

The Greatest Filter Development Ever Achieved For Use With Butane or Propane

The POWERESEARCH *micronic* Butane-Propane Filter

For Automotive, Industrial and Domestic Installations

Filtration so fine that it will trap and remove particles as small as one ten-thousandth of an inch guarantees protection to YOUR equipment against all foreign matter and gums.

SPECIFICATIONS

Element

Replaceable type
Filtering Area—600 sq. in.
Liquid Flow Capacity—60 gals. per hr.
Gas Flow Capacity—2000 cu. ft. per hr.

Case

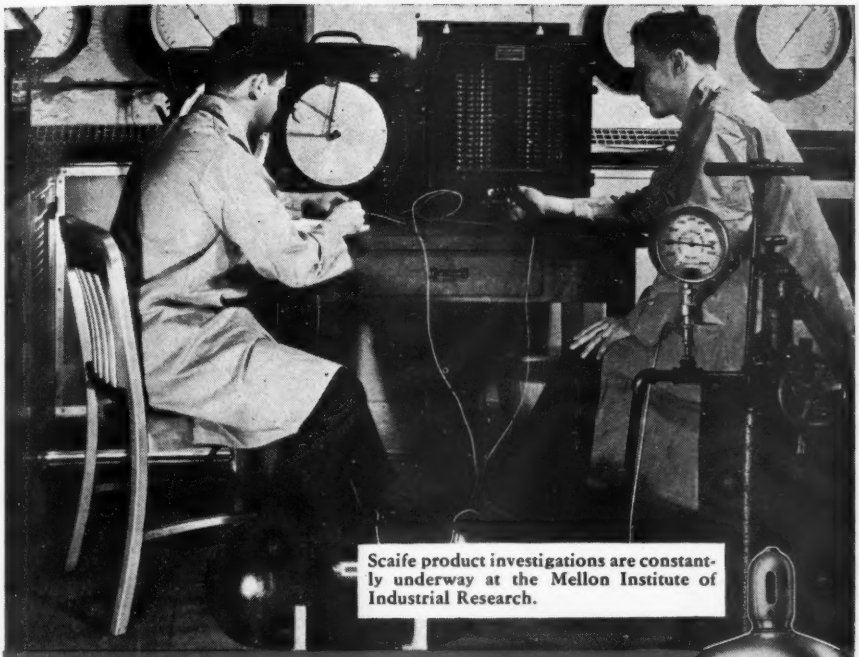
Working Pressure—300 P.S.I.
Test Pressure—500 P.S.I.
Capacity (excl. element)—80 cu. in.
Size—5 in. dia. x 8 in. high
For YOUR lower operating and maintenance costs in actual dollar savings, get facts now from:

MANUFACTURED BY

POWERESEARCH CORPORATION

2929 Gage Avenue - - - HUNTINGTON PARK, CALIFORNIA

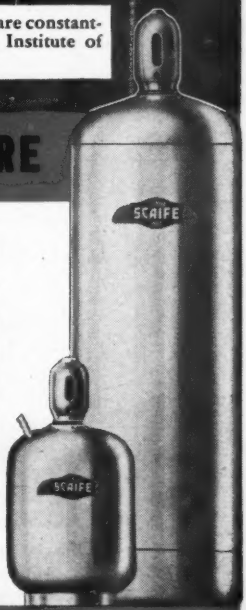
"Research In the Field of Power"



Scaife product investigations are constantly underway at the Mellon Institute of Industrial Research.

WITH AN EYE TO *your* FUTURE

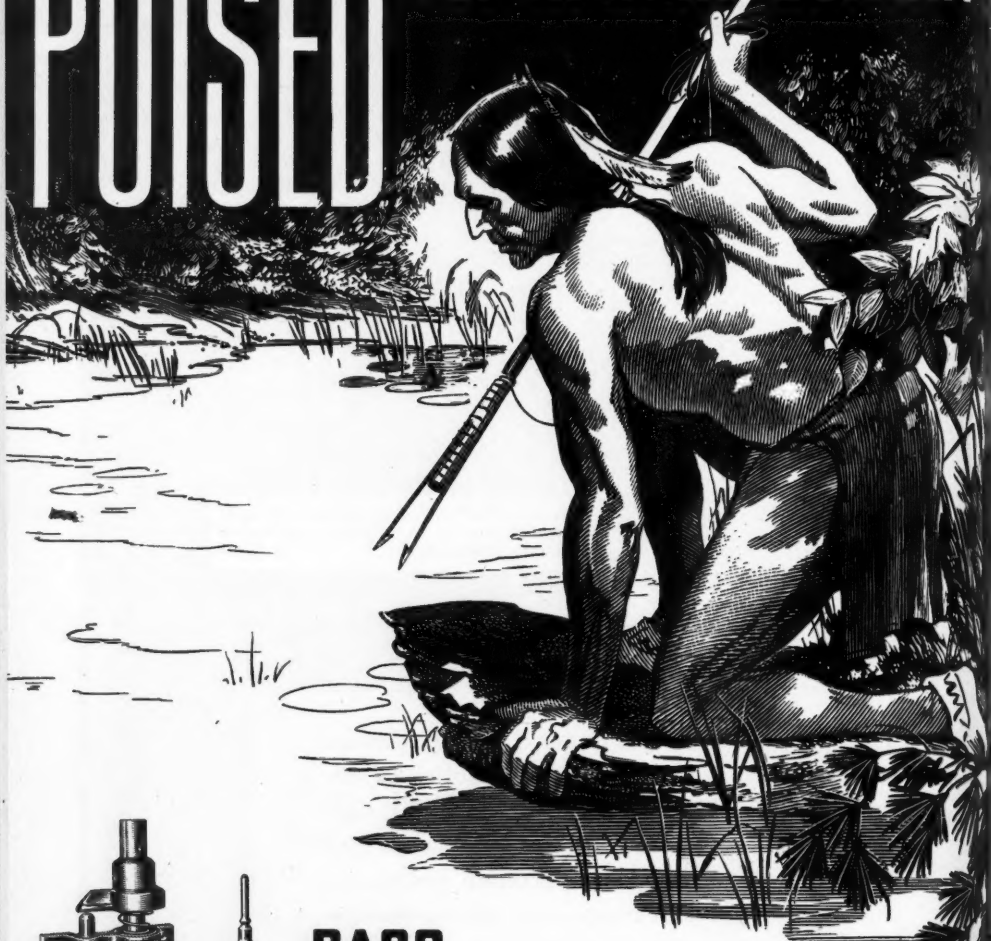
You get better service from Scaife Cylinders today because of our continuing policy of research. From the very earliest days of LP Gas —Scaife has worked hand in hand with gas distributors, studying transportation problems, investigating ways of improving cylinder design and manufacture. Scaife Cylinders are better today—and will continue to lead in quality and service because of our broad-gauge scientific research program.

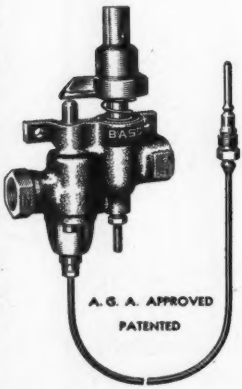


SCAIFE COMPANY

FOUNDED 1802
Oakmont (Allegheny County), Pa.

POISED *for instant/action!*





BASO
poised for swift shutoff!

The tension of split-second timing etched in the outline of every muscle, the hunter awaits his one all-demanding instant of action. So BASO, steel-muscled and finely balanced, stands expectant guard against pilot flame failure. At the moment of need, swift, positive action snaps the BASO valve shut, prevents escape of unburned gas. Pressure on the reset button seals off the main burner and opens the pilot for safe, simple relighting.

FOR RELIABLE, AUTOMATIC GAS SHUTOFF...SPECIFY
BASO...The Automatic Pilot

Send for Bulletin—SB 300—"Application of BASO'S"

MILWAUKEE GAS SPECIALTY COMPANY • MILWAUKEE 1, WISCONSIN

"I like our new bottled gas service. That attractive cover certainly adds a lot to the appearance"

YES, attractive appearance is an 'extra' that you can give your customers with a Stampings housing.

Appearance counts with the customer. Wise dealers are providing their customers on new installations with this latest, all-aluminum housing — at no extra cost. For Stampings housings are low priced.

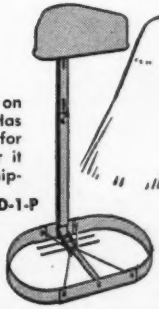
So why not supply both good appearance and complete protection on your installations? We can show you how to do it — at lowest cost. Learn about the new D-1 all-aluminum housing.

STAMPINGS, INC. **DAVENPORT, IOWA**

The D-1 is available in both post and wall mounted models:

The D-1-B

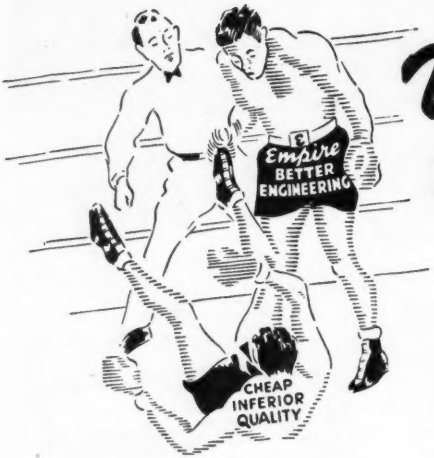
The finest wall-mounted housing on the market. The price is very low. Has all the features you are looking for in housing equipment. Remember it is aluminum and will not rust. Shipping weight 6 lbs.



THE D-1-P

Here is the complete unit with cover, post and base form. An aluminum product that lasts for years—it cannot rust. Shipping weight 10 lbs.

WRITE FOR LATEST CATALOG AND PRICE LIST



We're in the ring for YOU

To whip Poor Construction and Performance—to bring YOU only TOP QUALITY

Top Quality Materials

Empire Engineers pretest and prove materials available for building gas heating appliances. Only those are accepted that prove to give best heating results with assurance of a long life of service.

Top Quality Construction

Empire Engineers determine correct design for best performance and safety. Then latest type precision machines form parts to minute exactness. Mass production and modern line assembly bring you appliances at lowest possible cost.

Top Quality Performance

Years of customer satisfaction is the record of Empire thruout the nation. Now with the efficient performance of the patented Empire burner, operating in scientifically constructed units, Empire appliances are unsurpassed for heating satisfaction. Write us for full information.

***Empire* GAS Floor Furnaces, Circulator and Forced Air Heaters**

Empire Stove Company

BELLEVILLE, ILLINOIS

MANUFACTURERS OF GAS HEATING AND COOKING APPLIANCES


BIG
PRODUCTION! VALUE!
Southern-AIRE
GAS SPACE HEATERS
... And of course, BIG in sales! The exclusive stainless steel burner, approved for use with all gases, provides unequalled performance range. The case, smart in styling and sturdy in construction, provides customer appeal. Production assures positive delivery on orders placed now. Write, wire, or phone for details.
SOUTHERN AIRCRAFT COMPANY
GARLAND · DALLAS COUNTY · TEXAS

THERE IS NO GAMBLE TO THIS "WINNING TIP"

The dealers who display, merchandise, sell and install United States Water Heaters are winning in every way — new friends, loyal customers, substantial profits. There is satisfaction in every sale — for both dealer and customer — why? Because United States Water Heaters are High in Quality — Low in Cost — Economical in Operation — Dependable in Performance — Long in Service.

Exclusive performance features are built into all models, insuring positive satisfaction, whether the model be for bungalow, mansion, apartment house, restaurant, hotel, school, or any other domestic or commercial application.

STANDARDIZE ON U•S•H

A wide range of models provides dealers with unlimited fields of sale from one water heater manufacturer, thus permitting a dealer to standardize on the famous line of United States Water Heaters for the requirements of all of his customers.

Take this "Winning Tip" — display, sell and install "U.S.H." Water Heaters.

U•S•H
MFD. BY UNITED STATES HEATER CO.
COMPTON, CALIF. U.S.A. REG. U.S. PAT. OFF.

UNITED STATES HEATER CO.
133 EAST PALMER AVENUE • COMPTON, CALIFORNIA

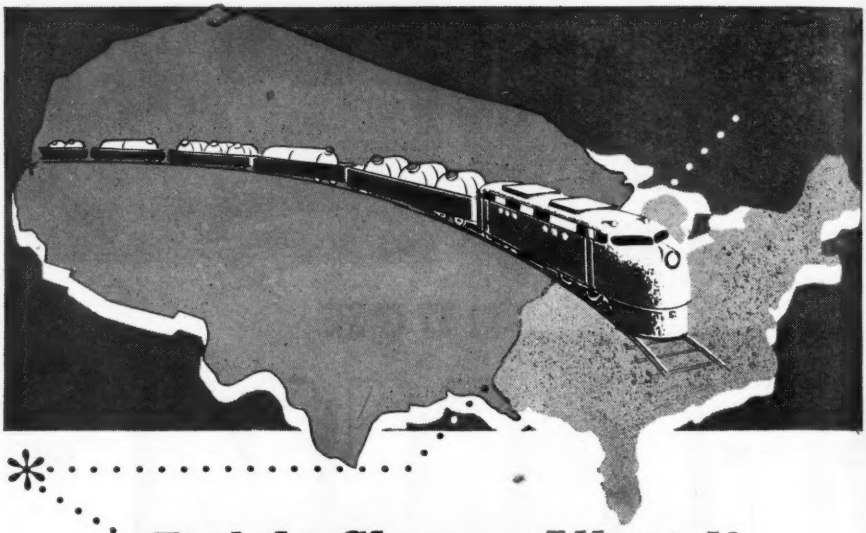
LARGE OR SMALL TRUCK TANKS

*McDONOUGH STEEL CO. *tank installations have these three essentials: sound engineering, finished craftsmanship and exact conformity to specifications.*

PATRICK W. McDONOUGH, President
McDonough Steel Co.

Whatever the capacity of your butane or propane truck, chances are we have built similar tanks, complete with metering and valve installations. Let us apply our knowledge and experience to *your* tank order.

McDONOUGH STEEL CO.
FORMERLY BOILER TANK & PIPE COMPANY
800 75th AVENUE · OAKLAND 3, CALIFORNIA



Freight Charges Allowed!

FROM LOS ANGELES, CALIF. TO ANY POINT WEST OF FREIGHT GROUP C and M

Freight charges are now allowed on all carload shipments of Pacific Tanks sold west of Freight Groups C and M (note shaded area on map above). This line extends, roughly, from Sault Ste. Marie, through Chicago and Cairo, Illinois, along the Mississippi to New Orleans. Boundary lines are in accordance with east bound tariff No. 3-S as shown on maps issued by western railroads.

This new policy "in effect" quotes prices F. O. B. at dealer's plant, if they are located west of dividing line. Buyers east of the division are allowed freight to the division point on all carload shipments Now every dealer can afford to stock and sell the tanks with the "modern design"...

TANKS BY *Pacific*

Pacific tanks are manufactured by Pacific Iron and Steel Co. of Los Angeles, exclusive sales by Pacific Tanks Co., 215 W. Fifth St., Los Angeles, Calif. and 222 W. Adams St., Chicago, Ill.

Condensed Living Simplified

Mutual Presents a New Idea in Small Size Ranges

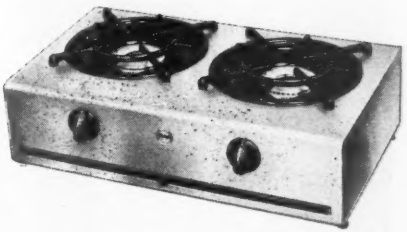
Mutual's new "small size" range is just what dealers have been waiting for to fill the orders of customers who own trailers, boats or cabins. This unique 3-burner apartment range is also excellent for small apartments or motels.

Designed especially for the LP-Gas industry, with the problems of the dealer in mind, it has many advantages over other models on the market today. A few of its features include:

- 3 full-size top burners, designed to save space, give "big-stove" cooking features.
- Large vented oven (rapid acting).
- Individual grey iron porcelainized spiders.
- Aeration pans for top burners; removable drip pan for easy cleaning.
- Glass batt insulation; approved values; for butane, propane or natural gas.

Here . . . At Last . . .

is a modern hot plate designed especially for the LP-Gas industry. It offers all the selling points needed to attract that fast growing group composed of trailer owners, campers, sportsmen, owners of motels and small apartments. Now obtainable with 1, 2 or 3 burners . . . COMPETITIVELY PRICED.



Features:

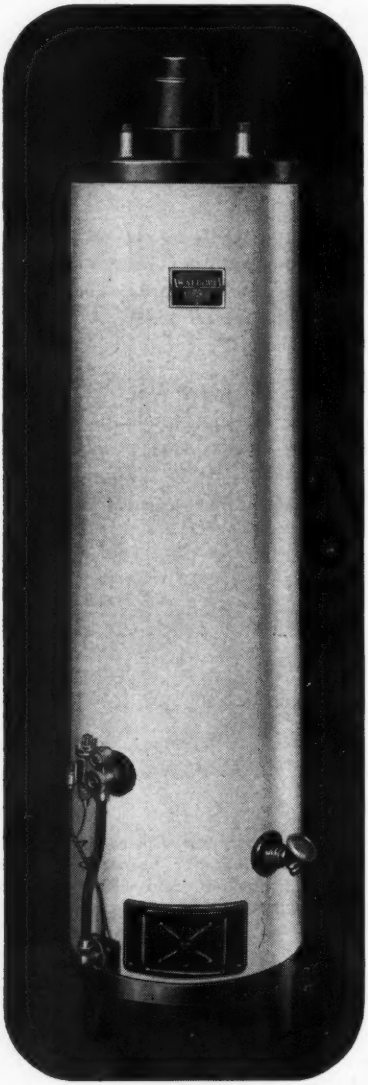
It is compact but has full size burners and spiders; burners solid mounted . . . Offers streamlined beauty and convenience in cleaning . . . Equipped with removable drip pan; aeration pans for burners; approved valves . . . Shell is cold-roll press steel, with rugged spot-weld construction.

Mutual

LIQUID GAS EQUIPMENT CO., Inc.

3600 West Imperial Highway, Inglewood, Calif.

"WHAT'S WORTH WHILE HAVING . . .
IS WORTH WHILE WAITING FOR"



It's Here

WALDORF

WATER HEATER
for L-P Gas

The modern water heater for the modern heater fuel. Tops in efficiency, appearance and construction detail. Its spectacular success with natural and manufactured gas has led to a demand for Waldorf in the L-P field. The same engineering and consumer-wise understanding that has put Waldorf high up in those fields, is at work to duplicate that success with L-P. Here are some of the sales-making features:

- Positive, snap-action thermostat with graduated dial for water-temperature.
- 100% safety electro-magnetic "Baso" thermocouple control. In case of gas failure it shuts off both pilot and main burner.
- Safe-lighting: Impossible to get a flow of gas to main burner until safety pilot is lighted and operating.
- Gas-cock handle has visual indication of the pilot "on" and "off" position.
- Insulated with blanket of heat-retaining fiberglass.
- Slotted, cast-iron, bunsen-type burner of most modern scientific design.
- Approved by American Gas Association.

WALDORF HEATER CO.

1421 Chestnut St., Philadelphia 2, Pa.

To Create Sales and Profits for You

CRIBBEN & SEXTON

Announces Its 1947

NATIONAL MAGAZINE ADVERTISING PROGRAM FOR

UNIVERSAL GAS RANGES

WITH 36 MILLION SALES MESSAGES ABOUT UNIVERSAL GAS RANGES IN AMERICA'S LEADING MAGAZINES

MOST OF IT IN 2 AND 4 COLORS!

L-P GAS *The Preferred Cooking Fuel*

L-P UNIVERSAL *The Preferred Gas Range*

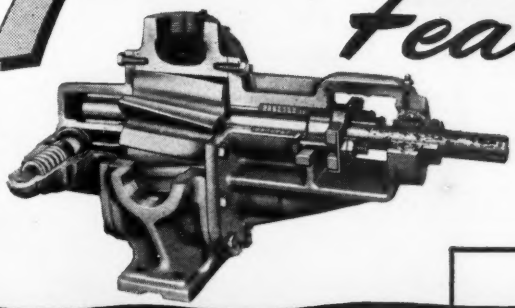
CRIBBEN & SEXTON

UNIVERSAL *Gas* RANGE

700 N. SACRAMENTO BLVD. CHICAGO 12, ILLINOIS

UNIVERSAL RANGES GIVEN AWAY FREE ON "GIVE AND TAKE" CBS, SAT., 2 P M EST; "TOMMY BARTLETT" MON. THRU FRI., ABC, 2 P M EST

7 ROPER PUMP *Features*



INSURE GREATER DEPENDABILITY

Engineered for maximum efficiency in pumping L-P gases at reduced power and maintenance costs, this compact, long-life Roper has proved-in-service dependability attested to by thousands of satisfied users. With sizes capable of pumping from 40 to 175 g.p.m. you'll find the Roper an ideal unit for pumping Butane, Propane, Butane-Propane mix, fuel oil and gasoline. Easily installed, light in weight, interchangeable with earlier models . . . equally adaptable for bulk station service. As direct-drive it operates at idling speeds through transmission power-take-off or can be chain and sprocket driven when truck construction permits.

QUICK FACTS

- Rugged, Equal Size, Semi-steel Pumping Gears.
- Hydraulic Lubricating and Cooling Principle
- Special L-P Packing Rings
- Long Leak-Proof Service
- Non-Corrosive Stainless Steel Shaft
- Axial Hydraulic Balance — 4 High-Load Bronze Bearings

Write for Bulletin

Get Full Story of New Roper Features. Send for Bulletin Today!

GEO. D. ROPER CORP.
104 Blackhawk Park Avenue
ROCKFORD, ILLINOIS

ROPER *Rotary Pumps*

Convenient Sales Offices in Principal Cities

LETTERS

Gentlemen:

A customer who is now using a coal burning, hot air furnace to heat a large eight to ten room ranch home has asked for information as to best way to change from coal to LP-Gas.

He does not want to use floor furnaces and as there are very few furnaces of other types in use in this part of the Southwest, we are turning to you for information as to the best way to convert him to LP-Gas. Can he use same furnace, or is it best to suggest installation of complete new furnace?

T.W.H.

Texas

It is perfectly feasible to convert coal furnaces to liquefied petroleum gas if the furnaces are in good condition. You can buy an entire gas conversion burner unit and make the installation. You will also need to make certain flue adjustments, installing a back draft diverter. Gas does not require as much draft as coal.

Have you a copy of "The Bottled Gas Manual?" Chapter 18 is entirely devoted to a comparison of liquefied petroleum gas with coal and many valuable tables are given.—Ed.

•

Gentlemen:

We purchase propane in tank cars, measurement based on 60° temperature. If tank car is received at 40° or 50° temperature, how do we determine whether or not there is shortage?

In the same way, in selling propane without metering into trucks, if we want 8 cents per gallon at 60°, how much should we receive at 50°, at 40°, etc?

I have the Bottled Gas Manual and Handbook Butane-Propane Gases but am not sure how to determine the amounts.

R.N.L.

Nebraska

I do not know which edition of our Handbook you have, but in the Third Edition the chapter on Volume Correction Factors begins on Page 50 and the third paragraph on that page gives explicit instructions as how to use your table on Page 51.

In the first place you must know the specific gravity of your gas. This is usually furnished you by your supplier.

In the third column of Table 1 on Page 51, you will find that the specific gravity of pure propane is 0.5079. Running down the first column of observed temperatures to 60°, you will find that the volume correction factor is 1. In other words, this is the base factor.

Now, suppose your shipment is received at 40° temperature. Follow up the first column to 40° and then over to the third column and you find that the volume correction factor is 1.032. Multiply the number of gallons of gas at 40° by 1.032 and you will have the equivalent number of gallons at 60°.

In similar manner, you can correct for any other temperature.

Propane received at any temperature lower than 60° must be theoretically warmed up to 60° in order to use these base factors. In other words, there will be an expansion in warming up to 60° and that is what you are estimating when you use these volume correction factors.—Ed.

•

Gentlemen:

We are LP-Gas dealers, serving some 1500 customers.

The present shortage of gas has us badly worried. At the present time, the bulk plant proprietor from whom we normally buy our gas is unable to supply us and, as nearly as we can

determine, this shortage is state- and probably nation-wide.

It is important for us to know the cause of this scarcity and what, if any, steps are being taken by the industry leaders to remedy this situation.

We have been told that it is all due to a scarcity of tank cars caused by government withdrawals. At the same time the one refinery which we have contacted seems to be practically out of gas and this looks as though the shortage was more general

We would appreciate it if you would tell us what the true situation is. If this shortage is to continue, or to be a yearly occurrence, our entire planning will have to be revised.

L.W.F.

New York

Since we do not know from whom you buy your gas, it isn't possible to say exactly why he hasn't been able to keep you supplied. In the main, however, you have been advised correctly that it is a shortage of tank cars that is the chief reason for the temporary breakdown of deliveries in some sections.

You say that one refinery that you have contacted is practically out of gas. We do not know of any refinery that is in this condition but, undoubtedly, many of them have more commitments or orders on hand than they are able to fill.

It doesn't look as if the tank car situation will be much improved before the beginning of spring. The reason for this, as you can well surmise, is the fact that there has been a shortage of steel as a result of the coal and steel strikes during 1946.

My opinion is that you will just have to make the best of it for the rest of the winter, being sure that you get cylinders filled whenever you can and keeping as many full cylinders on hand as possible. If your supplier can't give you any assurance that he can let you have more gas, I would advise you not to put in any new installations until you are sure you can take care of them.

No one can tell you for sure how long the shortage will continue, but all of the production experts in the industry agree that it is not a permanent situation and that in years to come there should be more propane available than will be required.—Ed.

Gentlemen:

Can you tell us where we can obtain an oven thermometer of consistant and long-service accuracy similar to the Taylor water thermometer, which is like a fever thermometer, carried in a case and is about pencil size.

We want a slim thermometer, simple to carry and use, for calibrating thermostats.

S.F.B.

North Carolina.

The Adolph Frese Co., 116 West 17th St., Los Angeles, makes a thermometer which may be what you need.—Ed.

•

Gentlemen:

Can you give us information on ultimate CO_2, product of combustion per volume of gas and Btu per cu. ft. of typical butane-propane gases? As a matter of fact, we are interested in this information for all gas mixtures of typical gases sold in major gas using areas and localities.

R.U.

Pennsylvania

In our "Handbook Butane-Propane Gases," Page 32, there appears a table entitled "Combustion Data of Hydrocarbons" that I believe exactly meets your requirements.—Ed.

•

Gentlemen:

I wish to take this opportunity to thank you and Mr. R. Stanley Smith for the very enlightening articles that Mr. Smith has written on pumps and their uses pertaining to the butane-propane industry. These articles have given me a great deal of information and assistance in my work as an engineer, not only from a professional standpoint, but also from the practical every day information that is so clearly and amply provided by these articles.

It is my firm belief that if more articles such as these could be written

for the industry, in the clear and concise, informative manner in which these have been presented, a great many of our problems of incorrect and hazardous installations would be corrected. Mr. Smith's handling of an extremely difficult problem in a clear manner that practically anyone could understand is of great benefit to the dealer, the distributor, and the manufacturer of butane-propane equipment, particularly at this time as the industry is still in its infancy and many of the growing pains of an infant industry are still being felt in hazardous applications of various pieces of equipment.

I would appreciate very much if you could forward me any information, or the reprints themselves, of articles that Mr. Smith has written for your magazine in the past. I should like very much to have these and use them as a regular reference file in my library.

It is my earnest desire that you pass on this letter to Mr. Smith and if there is any possible way that I can obtain reprints of all of the articles that he has written on pumps and their installation procedures, I would appreciate it a great deal.

C. M. DENTON,
Chief Engineer, Pacific Tanks Co.
California

We, too, look upon Mr. Smith's series on "Pump Problems" to be among the most valuable we have ever published. With his engineering background and long experience in manufacturing pumps for the LP-Gas industry, he knows the exact problems that arise in the field—and the answers, as well.

Reprints of the entire series may be had without charge by addressing the Smith Precision Products Co., 1135 Mission St., South Pasadena, Calif.—Ed.

•

Gentlemen:

Do you know of anyone who makes a bottled gas side arm heater that is safe or in other words has the same safeguards against flame failure that the automatic heaters have?

There is a market right here for dozens upon dozens of such heaters where the city gas has been discontinued and on the farms that have bottled gas stoves and well water supply systems.

A.B.C.
Iowa

To the best of our knowledge, there is no side arm water heater being made that incorporates the fully automatic shut-off principle.

The water boilers and heaters being made by different firms largely preclude the feasibility of such equipment and the use of side arm heaters without such a safety guard is definitely not recommended.

It is generally conceded that the present storage type of water heater be sold instead of a side arm heater. It is far more efficient and the fuel cost in the long run is less because the new tanks are so well insulated.

Don't you think you can swing your prospects over to modern water heaters?—Ed.

•

Gentlemen:

We have two 50,000 Btu furnaces. The flame will not stay on the burner at this altitude unless we remove the lighter cap. Could you give us some information on how to correct this?

F.S.
Colorado

Gases expand in high altitudes. Flue areas which were satisfactory at sea level do not work out well with high elevations.

In the cases you name the gas input must be reduced below the sea level rating. For best performance the reduction should amount to approximately 5% for each 1000 feet of altitude.

I am enclosing an article which appeared in the September issue of BUTANE-PROPANE *News* upon this very subject. It is written by R. M. Conner, Director of the American Gas Association Testing Laboratories. On Page 51 you will note that he states that detailed high altitude test procedures were recently published. Quite possibly you can obtain a copy of these if you would like to have it.—Ed.

Front view of the new American "RED HEAD UNITROL". Note the single multi-valve, brass body and brass fittings. Class NF-3 Threads provide perfect fit and alignment. Inspection plate is clearly visible, showing all pertinent data in compliance with code and manufacturing requirements. Specify the American "RED HEAD"... a complete, storage, gas-generating, dispensing system.

AMERICAN PIPE & STEEL CORPORATION

Engineers, Designers, Fabricators

Alhambra California

Cable Address: AMPSTEEL

COMMENT

INDUSTRY conventions are usually attended by dealers, distributors and manufacturers. But where are the service and sales representatives? They would profit by attendance—if they had a chance.

Actually, convention papers and talks are more often directed to the service and sales departments than to the owners of businesses but seldom are representatives of these departments in attendance. This was emphasized at a recent LPGA convention by Carl Golden, of the Ransome Co., when he was explaining the operation of a regulator. And it makes sense.

It might almost be said that if but one representative of a firm could attend a convention, it would better be the head serviceman than anybody else.

State conventions are particularly appropriate meetings for employes to attend, as traveling time and expenses are at a minimum.

It is worth serious consideration.

•

According to Warren Petroleum Corp.'s "The Natural Gasser," a line of fields in South Texas, which may emerge into one huge field 50 to 55 miles long by 3 to 7 miles wide, and second only to the great East Texas field, has potentially proved reserves of from 1¼ to 1¾ billion barrels of oil, 300 to 400 million barrels of condensate and from 10 to 15 trillion cubic feet of gas.

•

The Oklahoma LPGA's larger consumer tank committee to acquaint dealers with plans for selling the user more storage capacity is already functioning.

Also, it has met with suppliers and tank manufacturers to work out advertising and promotion programs which will provide posters, circulars, booklets and advertising copy at low cost to cooperating dealers.

Betcha they just about lick this thing before another winter blows in!

•

U. S. fire losses in 1946 reached an all-time high. Property worth $561,487,000 went up in smoke—a 23% greater loss than in 1945.

That's why President Truman has called a national conference on fire prevention to meet in Washington May 6-8. The gas industry has a good record but if every dealer will follow sound safety practices it can be even better.

What are you doing in your company to reduce accident hazards?

•

Arrangements for a safety training program and school were completed at a recent meeting of the Safety and Safe Practices Committee of the Texas Butane Dealers Association.

The school and on-the-job training programs will be held throughout Texas as soon as the proper man can be found to take over the job of director. An itinerary will be announced at that time and all dealers will be requested to have their employes attend the courses, which will be held at night and cover 12½ to 15 hours.

By Ed.

BEYOND THE MAINS

By ELLIOTT TAYLOR

Legislation — Unity

RIGHT now, and without too much painstaking research on the subject, we know of 18 states in which some form of legislation affecting the sale or handling of butane and propane gases is either being considered in committee, or has been reported out for action by the various state assemblies. No doubt there are others that we haven't heard about, and we know, too, that a number of municipalities are in the throes of producing local ordinances looking to the control or the taxing of liquefied petroleum gas.

The motives behind these laws are many and varied. In some instances the purpose is merely to enact into state law the sound safety practices that every responsible operator should be observing, anyhow. In others, the concern is largely with establishing a pattern for the political control of the industry, often in a manner whereby the public convenience and safety would stand to be imperiled rather than safeguarded. In the background of some legislative scheming is the plan to have the distribution of LP-Gas declared a public utility operation, and taxed as such, under a system of regulated rates for service.

There was a time, not too long ago, when any mention of a proposed state law to regulate butane and propane was met with outraged and anguished cries, not necessarily because of the specific provisions, but more because of routine objection to any law that would place restrictions on industry operation, regardless of how sensible or logical those restrictions might be.

Feeling in the industry on this matter has undergone a considerable change in recent years, first because many have come to regard some legislation as inevitable, and secondly because it has been discovered that sound and realistic state laws have actually had a beneficial rather than a detrimental effect on the gas business.

The Liquefied Petroleum Gas Association has recognized this very fact, and for some time has had available for any law making body, a so-called model law that is offered as a basis on which to construct appropriate local state legislation where its need and advisability have become apparent. The association, through its counsel, also follows closely

all developments in states where legislation is pending and makes recommendations as to its desirability.

But as we all know, laws are seldom either passed or defeated on the basis of their abstract merit; practical operating politics dictate that they be built up to the demands of the most potent proponents, or trimmed down to soothe the objections of the most voluble objectors.

Thus, the need for local organization within the industry becomes increasingly apparent as the necessity for intelligent recommendations to state lawmakers becomes more urgent.

A national association can supply model laws and ordinances, it can scrutinize and analyze proposed legislation, but beyond that it is politically impotent without the backing, on the home grounds, of an aggressive and informed group of voters, taxpayers and constituents whose opinions are, after all, a major concern of all elected bodies.

More than any one thing, the rash of new laws affecting liquefied gas points up the necessity for strong state organizations, embracing not just the elite of the industry, but the rank and file of dealers large and small, all of whom have a stake in the future of the gas business. And what is even more important to politicians, all of whom have to be reckoned with as local political factors, if only for the sake of the vote of each individual operator and his missus.

We are convinced that there is no dealer in the industry so small that he would not gain something by belonging to and supporting a state association, if only for the protection of his business from the attacks of predatory politics. And having met and talked to a good many hundreds of dealers, large and small, we are also convinced that there are few, indeed, so selfish or so dumb that they couldn't be sold on supporting unified industry action, if only some of the bright boys took the trouble to explain it to them.

Priceless Propane

A LITTLE consumer booklet, "L-P Gas in Your Home," gotten up by Homegas, Inc., of Wichita, Kan., and now being distributed by the Kansas Liquefied Petroleum Gas Association in the interests of greater consumer storage facilities, has one piece of information that should make Eastern bottled gas dealers drool.

"The 'average' home near Wichita," says Homegas, "uses a total of 1446 gallons of L-P Gas per year, of which more than 1000 gallons are used for house heating."

The gas dealers throughout the Middle West are aggressively pushing a campaign to have consumers install up to 1000-gallon storage on their own premises, as a method of partially overcoming the winter supply problem.

The "average" Eastern pro-

pane user doesn't buy 1400 pounds of gas in a year, to say nothing of 1400 gallons. In fact, the 446 gallons which the Kansan presumably uses for cooking, water heating and refrigeration, over and above his heating requirements, is still more than an Eastern bottled gas customer uses for all purposes.

Of course, it is largely a matter of price—and price is largely up to the refiners. Gas is cheaper in the Midwest because it is more plentiful there. But what we have always wondered, if propane has to cost from three to four times as much in the East as it does in the Middle West, why is it that gasoline doesn't show the same price differential? They both spring from the same family tree, they both are a product of the same extraction process, and one is plentiful or scarce, as the case may be, in close proportion to the production of the other.

Then again, maybe the 1000-gallon tank is the tip-off. Certainly it must cost less to distribute gas when it can be delivered several hundred gallons at a time than it does by hauling it around in small portable containers that weigh as much as, or more than, the gas they carry.

Would cheaper gas at the refinery result in a changed distribution system in the bottled gas areas? Would larger consumer storage be practical where propane is used almost exclusively? Would it mean an appreciable increase in the gas load if consumers could buy propane for 50% less than they now pay? In the long run would the increased load, if there were to be an increased load, return a greater net to the gas distributor and dealer, or would they merely be swapping more gallons for dollars without making any more for their trouble?

We don't know all the answers. Maybe someone who feels like writing in and raising Ned with us for questioning the perfection of present propane distribution practices will help us out with a few facts after he cools down to a simmer.

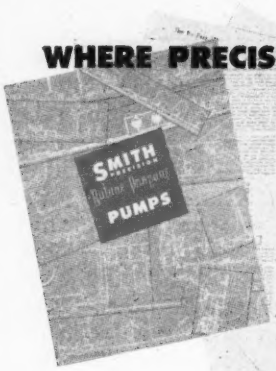
Responsibility

AS we had been expecting for some months, the Interstate Commerce Commission, by action effective Feb. 24, 1947, has extended the initial retesting period from five years to 10 years, with subsequent retests at either five or 10 year intervals, depending on the testing method.

Specific conditions requiring the elimination of cylinders from service include "evidence of bad dents, corroded areas, a leak or other conditions that indicate possible weakness . . ." in the language of the ICC regulations.

As Frank Fetherston has pointed out in recent bulletins of the LPGA, "This change in cylinder testing procedure . . . will save for its (the industry's) members, literally hundreds of thousands of dollars. It is the duty of the industry . . . to prove that these modified testing procedures will raise the standards of safety."

WHERE PRECISION MEANS PROFIT

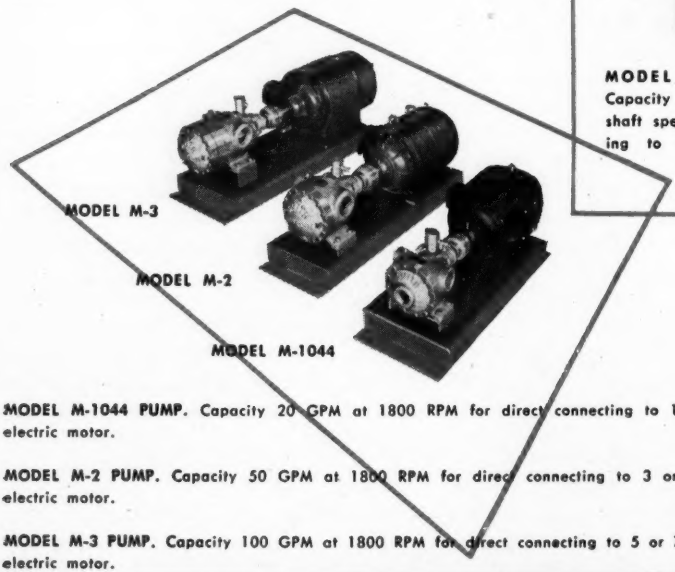


Smith Precision Pumps are designed specifically for pumping L-P Gas, and are built to highest precision standards. They increase pumping efficiency and operating profits. Our new Catalog and Installation Diagrams tell how . . . send for your free copy of Catalog K-46 today.

MODEL T-1044 TRUCK PUMP Capacity 20 GPM at 500 RPM shaft speed, for direct connecting to truck power take-off.

MODEL T-2 TRUCK PUMP Capacity 50 GPM at 500 RPM shaft speed, for direct connecting to truck power take-off.

MODEL T-3 TRUCK PUMP Capacity 100 GPM at 500 RPM shaft speed, for direct connecting to truck power take-off.



MODEL M-1044 PUMP. Capacity 20 GPM at 1800 RPM for direct connecting to 1½ HP explosion-proof electric motor.

MODEL M-2 PUMP. Capacity 50 GPM at 1800 RPM for direct connecting to 3 or 5 HP explosion-proof electric motor.

MODEL M-3 PUMP. Capacity 100 GPM at 1800 RPM for direct connecting to 5 or 7½ HP explosion-proof electric motor.

SMITH
PRECISION PRODUCTS COMPANY

1135 MISSION STREET • SOUTH PASADENA, CALIFORNIA

Army Housing in Las Vegas

Las Vegas' principal business street when the lights are on and spirits are gay.

Off-The-Mains Project Shows Way To Build Load

A LONG WHILE before the Japs went off on their belated attempt to put us in our place, the gentleman in Washington with the long white whiskers was planning things we knew little about.

H. W. WICKSTROM

One of these was to establish a great air base in the desert to train our boys in the art of self-defense, using for gloves the sleek and fast fighters and bombers with their deadly armament.

Early in 1940, McCarren field was established about 15 miles north of Las Vegas, Nevada, in a spot that was so completely desert that even a good imagination could not visualize what it would grow into later.

Completely isolated from the usual sources of supply of fuel, water and electricity, a camp that was eventually to have a personnel of 10,000 men, took form in the barren desert.

The original plans that originated in the east, provided for coal bins and stokers for heating and coal fired kitchen equipment, with little thought being given to the distances that coal would have to be hauled to serve this desert spot, or any consideration for the summer days when the atmospheric temper-

By HAROLD W. WICKSTROM
Technical Editor, Butane-Propane News

Gas Brings Luxury to the Desert

Front view of kitchen from dining room. George Corey is standing in front of the broiler.

View of air conditioned dining room of Corey's Cafe, Las Vegas. The equipment in this restaurant cost $80,000.

TABLE 1. AVERAGE FAMILY USE OF GAS WHEN THE GOVERNMENT PAYS THE BILL

Month	*Total Consumption 125 Units*	*Equivalent in Gals. of Propane*	*Gals. per Family*
January	641,630 cu. ft.	20,600	165
February	613,970 " "	20,000	160
March	575,690 " "	18,600	149
April	384,340 " "	12,400	99
May	169,130 " "	5,450	43.5
June	162,590 " "	5,250	42
July	153,600 " "	4,950	39.5
August	158,860 " "	5,150	41.5
September	152,040 " "	4,900	39
October	198,940 " "	6,450	51
November	459,740 " "	14,800	118
December	674,950 " "	18,500	148

atures might hit 110° and that cooks and bakers had to work so men could eat.

The economics of LP-Gas as a fuel were presented to the Army Engineers who were constructing the project and after due consideration, the camp was laid out to provide for LP-Gas for heating, cooking and water heating.

A contract was entered into with the Army to supply its requirements of gas through a master meter and the distribution system was installed in the camp proper.

The Las Vegas Gas Co. built a storage and vaporizing plant with an original 20,000 gallons storage capacity and started service on July 4, 1940.

Before the original project was even near completion, additional facilities were added and this continued at such a pace that 20,000 gallons additional storage became necessary and were installed.

Along with this development the government decided to build 125 housing units in the city of Las Vegas to provide homes for the instructors and technicians attached permanently to the base.

The advance men for the government studied the available utility facilities and discussed the possibility of serving this facility with LP-Gas.

There was no rate structure in effect at the time, designed to care for such a customer, so an inducement rate was devised on the basis that these homes would be equipped with gas appliances for the four services, cooking, water heating, refrigeration and heating.

The rate proposed was fair both to the company and the customer and negotiations proceeded to the point of signing the contracts when an alternate was proposed by which the buyer would avail himself of the gas service for cooking, water heat-

ing and heating but the refrigeration was to be electric.

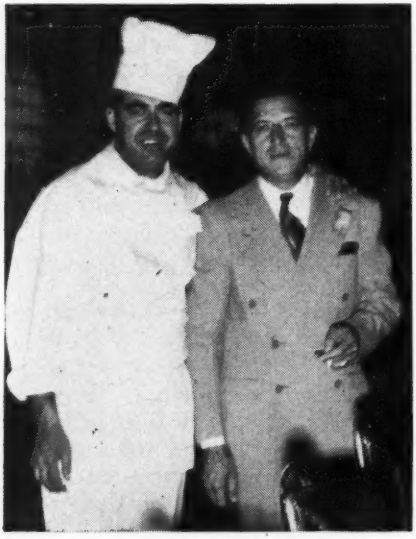
In the desert, summer load is hard to find. The rate offered was based on a year-round load with gas refrigeration being an important factor.

A decision had to be made as to whether to take what was offered, which was a good load, or to take a stand for the whole load or none.

The electric rates were low but no way of figuring could prove to us that what we had offered was not the most feasible and economical combination that could be obtained and it appeared that the long arm of the kilowatt boys was attempting to pull an iron out of the fire to the disadvantage of the LP-Gas company.

We held our ground and a few weeks later were awarded the contract for furnishing LP-Gas to this facility.

W. D. Vance, manager, Las Vegas Gas Co., and Mrs. Vance.



George and Gus Corey, owners of Corey's Cafe.

The gas is served through a master meter and the distribution system within the tract was installed by the owners.

Gas service is included in the monthly rental charge so the tenants are not restricted in its use.

The result of several years' operations yields some interesting figures as to how much gas a family will use even if it does not have to pay the bill. This is shown in Table 1.

This table is indicative of the type of load that can be expected in the Southwest.

That this load is interesting to any LP-Gas operator is evident.

There is a trend at the present time toward the development of multiple unit projects located in the outskirts of communities to take

advantage of lower land costs and to provide larger play areas, sunshine and the elimination of crowded living conditions.

These projects are contemplated by industrial concerns to house their employes and by insurance companies for income rental property.

When they are beyond the reach of the gas mains, the LP-Gas dealer can well afford to follow this development and provide gas service from a central vaporizing plant.

LP-Gas is the right fuel for such projects. When dealing with engineers and architects who have the ability to compare values and to analyze the overall economics that are evident against electrical competition, LP-Gas sells itself. The time, however, to get this load is when the developments are in their initial stage and before competitive facilities are included in the specifications.

It is incumbent upon the industry to get information into the hands of the planners and developers of projects of this type which gives them the facts about the availability of the fuel, the price at which it can be delivered and the relative costs of distribution systems for gas as compared to electricity. With these facts in hand, it is hard to make a decision not to use LP-Gas.

Idaho Company Opens New Branch Office

The Knu Gas & Appliance Co., which has been established in Nampa, Idaho, for some time, has opened a branch office in Boise.

C. N. Knudson is the owner of this company; F. L. Sweany is manager.

CALENDAR

April 8—National Butane-Propane Association Sectional Meeting. President Hotel. Kansas City, Mo.

April 9—NBPA Sectional Meeting. Allis Hotel. Wichita, Kansas.

April 10—NBPA Sectional Meeting. Mayo Hotel. Tulsa, Okla.

April 14 — Gas Appliance Manufacturers Association. Drake Hotel. Chicago.

April 14—Michigan LP-Gas Association. Grand Rapids.

April 16-18 — Southern Gas Association. Buena Vista Hotel. Biloxi, Miss.

April 22—NBPA Sectional Meeting. Biltmore Hotel. Atlanta, Ga.

April 23-25—Natural Gasoline Association of America. Baker Hotel. Dallas, Texas.

April 24—Florida LP-Gas Association. Boca Raton Club. Boca Raton, Fla.

April 29—NBPA Sectional Meeting. Roosevelt Hotel. New Orleans, La.

April 30—NBPA Sectional Meeting. Bentley Hotel. Alexandria, La.

May 5—Georgia Liquefied Petroleum Gas Association. Oglethorpe Hotel. Savannah.

May 7—Illinois Liquefied Petroleum Gas Association. St. Nicholas Hotel. Springfield, Ill.

May 27-29—Liquefied Petroleum Gas Association Convention and Exhibits. Sherman Hotel. Chicago.

June 9-11—Texas Butane Dealers Association. Buccaneer Hotel. Galveston, Texas.

Sept. 8-10—Southwestern LP-Gas Convention and Appliance Show (Oklahoma LPGA). Skirvin Hotel. Oklahoma City, Okla.

Sept. 15-17—National Butane-Propane Association Convention and Exhibits. Jefferson Hotel. St. Louis, Mo.

Sept. 29-Oct. 3—American Gas Association Annual Convention. San Francisco.

Oct. 9-10—Missouri LP-Gas Association. Jefferson City, Mo.

Oct. 10—California Natural Gasoline Association. Fall Meeting. Ambassador Hotel. Los Angeles.

Dec. 3—Wisconsin Liquefied Petroleum Gas Association. Annual Meeting.

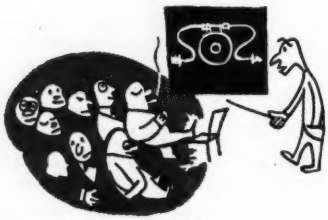
Cross-Country

NEW YORK—Dealers may relax. ICC extends 5-year cylinder test period to 10 years.

CROSS-COUNTRY—Dealer conventions in quantity lots loom on the horizon.

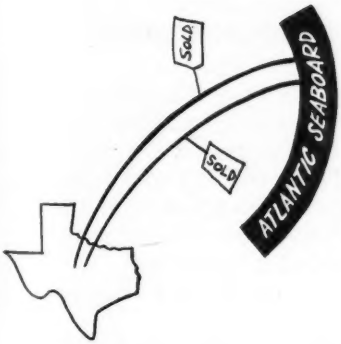
DALLAS—Baker hotel commandeered for Natural Gasoline Association of America meeting on April 23-25. There will be 1000 strong in attendance.

WASHINGTON, D. C.—War Assets Administration offers to sell to producers 423 Government-owned LP-Gas tank cars already in similar service.



LOS ANGELES—Why don't service men, instead of vice presidents, attend conventions? asks speaker as he demonstrates the workings of a regulator.

ORLANDO, FLA.—Half-ton of Irish spuds—fried and free—helps sell 100,000 Florida fair visitors the idea of *cooking with gas.*



WASHINGTON, D. C.—The Big Inch and The Little Big Inch pipe lines, Government war projects for oil transportation to the East Coast, have been sold to E. Holley Poe's Texas Eastern Transmission Co. for $143,127,000. They will carry natural gas from Texas to the Atlantic seaboard.

OKLAHOMA CITY—State association goes all out for larger consumer tanks as best solution to winter fuel shortages. Other states campaigning, too.

BATON ROUGE—Bright red inside domes and dome covers for propane installations after April 1 in Louisiana, says W. U. Moss, state LPG commissioner. (To distinguish from butane containers.) It's a law. Also two fire extinguishers for every truck.

LOS ANGELES—Again available to dealers: "The ABC of LP-Gas," reprint from BUTANE-PROPANE *News* of elementary facts about LP-Gas.

KANSAS CITY, MO.—State LP-Gas association officers met March 26 with the LPGA in a movement for national unity in mutual objectives.

CHICAGO—LPGA taking no chances. Starts campaign to sell teen-agers the merits of LP-Gas in the home.

Degree-Day Formula Tells Dealers How to Compute Storage Requirements

"THE A B C's of Degree-Day Influence on LP-Gas Service," a 28-page pamphlet for both customer and dealer education on the effect on LP-Gas domestic service of the varying degree-days throughout the year and how to compute the necessary customer storage requirements for ample heating service, has just been issued by Southern Gas & Equipment Co., Tulsa, Okla. It is now available to LP-Gas distributors and dealers throughout the country.

Particular emphasis is being made on distribution of this handy

Cover of pamphlet describing "degree day" estimates.

manual in those states in which winter house heating is a prime consideration, and where, due to the installation of inadequate on-the-premises storage, many have been woefully short of butane-propane fuel, if not actually without it during recent, severe winter weather.

Prefacing the manual is a brief history, a comparison of the present "peak load" service problem of the LP-Gas business with a similar condition that existed in the natural gas industry before the "degree-day formula" was devised to better compute customer requirements. Then the degree-day formula is defined and its method of application to the problems of individual customers explained.

The text of this very informative booklet is supported by U. S. Weather Bureau charts and tables, actual degree-day experience charts in Oklahoma and Kansas, charts showing how to figure the total gallonage requirements, and when, for year-round LP-Gas service with assurance to the customer and reasonable profit to the distributor.

This booklet has been prepared under the direction of Keith Clevenger to assist the industry in its program to correct previous hinderances to adequate LP-Gas domestic service and make intelligent and profitable progress in its drive for a large share of this growing market.

The booklets are now available in quantities for purchase by dealers for distribution to their customers and prospective customers. The price in lots of 250 and upwards is nominal.

Priorities Ratings Eliminated March 31

THE CPA, through issuance of PR35 and changes in Regulations 1, 3, and 28, has eliminated priority ratings after March 31, except for limited use in the Veterans' Emergency Housing program and in aiding the Veterans' Administration Construction program.

At the end of March all AAA, MM and CC ratings for any material or product, other than a construction item, expired. Included in the list of construction items are:

(1) Furnaces, floor, wall.

(2) Furnaces, warm air (gas-fired-rated input 110,000 or less) Btu per hour.

(3) Stoves and ranges for cooking and heating, including space heaters.

(4) Tubing, copper—types K. L. M., sizes ⅜" to 3" inclusive.

(5) Tubing, fittings (for copper tubing as defined above), pressure (solder and flare).

(6) Water heaters.

AAA, MM, and CC ratings will not be issued after March 31, 1947. HHH and HH ratings remain and RRR and RR have been added. Existing AAA, MM and CC ratings will not be effective for the purchase of steel for delivery after March 31, and no ratings will be issued for steel for delivery after March 31, 1947.

Texas Association Moves Into Larger Quarters

According to word recently received, the Texas Butane Dealers Association headquarters have been moved from the Littlefield Building to 1203 San Jacinto Street, Austin.

Tank Car Requirements

(Based on Days per Trip)

NUMBER OF DAYS PER TRIP	NUMBER OF CARS PER MONTH														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.03	.07	.10	.13	.17	.20	.23	.27	.30	.33	.37	.40	.43	.47	.50
2	.07	.13	.20	.27	.33	.40	.47	.53	.60	.67	.73	.80	.87	.93	1.00
3	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00	1.10	1.20	1.30	1.40	1.50
4	.13	.27	.40	.53	.67	.80	.93	1.07	1.20	1.33	1.47	1.60	1.73	1.87	2.00
5	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
6	.20	.40	.60	.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00
7	.23	.47	.70	.93	1.17	1.40	1.63	1.87	2.10	2.33	2.57	2.80	3.03	3.27	3.50
8	.27	.53	.80	1.07	1.33	1.60	1.87	2.13	2.40	2.67	2.93	3.20	3.47	3.73	4.00
9	.30	.60	.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.30	3.60	3.90	4.20	4.50
10	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
11	.37	.73	1.10	1.47	1.83	2.20	2.57	2.93	3.30	3.67	4.03	4.40	4.77	5.13	5.50
12	.40	.80	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00	4.40	4.80	5.20	5.60	6.00
13	.43	.87	1.30	1.73	2.17	2.60	3.03	3.47	3.90	4.33	4.77	5.20	5.63	6.07	6.50
14	.47	.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	5.13	5.60	6.07	6.53	7.00
15	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
16	.53	1.07	1.60	2.13	2.67	3.20	3.73	4.27	4.80	5.33	5.87	6.40	6.93	7.47	8.00
17	.57	1.13	1.70	2.27	2.83	3.40	3.97	4.53	5.10	5.67	6.23	6.80	7.37	7.93	8.50
18	.60	1.20	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00	6.60	7.20	7.80	8.40	9.00
19	.63	1.27	1.90	2.53	3.17	3.80	4.43	5.07	5.70	6.33	6.97	7.60	8.23	8.87	9.50
20	.67	1.33	2.00	2.67	3.33	4.00	4.67	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
21	.70	1.40	2.10	2.80	3.50	4.20	4.90	5.60	6.30	7.00	7.70	8.40	9.10	9.80	10.50
22	.73	1.47	2.20	2.93	3.67	4.40	5.13	5.87	6.60	7.33	8.07	8.80	9.53	10.27	11.00
23	.77	1.53	2.30	3.07	3.83	4.60	5.37	6.13	6.90	7.67	8.43	9.20	9.97	10.73	11.50
24	.80	1.60	2.40	3.20	4.00	4.80	5.60	6.40	7.20	8.00	8.80	9.60	10.40	11.20	12.00
25	.83	1.67	2.50	3.33	4.17	5.00	5.83	6.67	7.50	8.33	9.17	10.00	10.83	11.67	12.50
26	.87	1.73	2.60	3.47	4.33	5.20	6.07	6.93	7.80	8.67	9.53	10.40	11.27	12.13	13.00
27	.90	1.80	2.70	3.60	4.50	5.40	6.30	7.20	8.10	9.00	9.90	10.80	11.70	12.60	13.50
28	.93	1.87	2.80	3.73	4.67	5.60	6.53	7.47	8.40	9.33	10.27	11.20	12.13	13.07	14.00
29	.97	1.93	2.90	3.87	4.83	5.80	6.77	7.73	8.70	9.67	10.63	11.60	12.57	13.53	14.50
30	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00

The tables on these facing pages are valuable in determining seasonal tank car requirements if the round-trip time and the number of required trips per month are known.

NUMBER OF DAYS PER TRIP	NUMBER OF CARS PER MONTH														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	.53	.57	.60	.63	.67	.70	.73	.77	.80	.83	.87	.90	.93	.97	1.00
2	1.07	1.13	1.20	1.27	1.33	1.40	1.47	1.53	1.60	1.67	1.73	1.80	1.87	1.93	2.00
3	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	3.00
4	2.13	2.27	2.40	2.53	2.67	2.80	2.93	3.07	3.20	3.33	3.47	3.60	3.73	3.87	4.00
5	2.67	2.83	3.00	3.17	3.33	3.50	3.67	3.83	4.00	4.17	4.33	4.50	4.67	4.83	5.00
6	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00
7	3.73	3.97	4.20	4.43	4.67	4.90	5.13	5.37	5.60	5.83	6.07	6.30	6.53	6.77	7.00
8	4.27	4.53	4.80	5.07	5.33	5.60	5.87	6.13	6.40	6.67	6.93	7.20	7.47	7.73	8.00
9	4.80	5.10	5.40	5.70	6.00	6.30	6.60	6.90	7.20	7.50	7.80	8.10	8.40	8.70	9.00
10	5.33	5.67	6.00	6.33	6.67	7.00	7.33	7.67	8.00	8.33	8.67	9.00	9.33	9.67	10.00
11	5.87	6.23	6.60	6.97	7.33	7.70	8.07	8.43	8.80	9.17	9.53	9.90	10.27	10.63	11.00
12	6.40	6.80	7.20	7.60	8.00	8.40	8.80	9.20	9.60	10.00	10.40	10.80	11.20	11.60	12.00
13	6.93	7.37	7.80	8.23	8.67	9.10	9.53	9.97	10.40	10.83	11.27	11.70	12.13	12.57	13.00
14	7.47	7.93	8.40	8.87	9.33	9.80	10.27	10.73	11.20	11.67	12.13	12.60	13.07	13.53	14.00
15	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	14.50	15.00
16	8.53	9.07	9.60	10.13	10.67	11.20	11.73	12.27	12.80	13.33	13.87	14.40	14.93	15.47	16.00
17	9.07	9.63	10.20	10.77	11.33	11.90	12.47	13.03	13.60	14.17	14.73	15.30	15.87	16.43	17.00
18	9.60	10.20	10.80	11.40	12.00	12.60	13.20	13.80	14.40	15.00	15.60	16.20	16.80	17.40	18.00
19	10.13	10.77	11.40	12.03	12.67	13.30	13.93	14.57	15.20	15.83	16.47	17.10	17.73	18.37	19.00
20	10.67	11.33	12.00	12.67	13.33	14.00	14.67	15.33	16.00	16.67	17.33	18.00	18.67	19.33	20.00
21	11.20	11.90	12.60	13.30	14.00	14.70	15.40	16.10	16.80	17.50	18.20	18.90	19.60	20.30	21.00
22	11.73	12.47	13.20	13.93	14.67	15.40	16.13	16.87	17.60	18.33	19.07	19.80	20.53	21.27	22.00
23	12.27	13.03	13.80	14.57	15.33	16.10	16.87	17.63	18.40	19.17	19.93	20.70	21.47	22.23	23.00
24	12.80	13.60	14.40	15.20	16.00	16.80	17.60	18.40	19.20	20.00	20.80	21.60	22.40	23.20	24.00
25	13.33	14.17	15.00	15.83	16.67	17.50	18.33	19.17	20.00	20.83	21.67	22.50	23.33	24.17	25.00
26	13.87	14.73	15.60	16.47	17.33	18.20	19.07	19.93	20.80	21.67	22.53	23.40	24.27	25.13	26.00
27	14.40	15.30	16.20	17.10	18.00	18.90	19.80	20.70	21.60	22.50	23.40	24.30	25.20	26.10	27.00
28	14.93	15.87	16.80	17.73	18.67	19.60	20.53	21.47	22.40	23.33	24.27	25.20	26.13	27.07	28.00
29	15.47	16.43	17.40	18.37	19.33	20.30	21.27	22.23	23.20	24.17	25.13	26.10	27.07	28.03	29.00
30	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	29.00	30.00

Prepared by James Vance, Sinclair Prairie Oil Co., Tulsa, Okla.

Weed Burning

By L. H. WRIGHT and C. O. HENNEMAN

Chemical Engineering Department, Phillips Petroleum Co.
Bartlesville, Oklahoma

The term "Flame Weeding" is relatively new in agriculture. It is applied to the process of passing a flame rapidly over the crop plants and weeds in such a manner that the crop plants are not injured substantially while the weeds soon die from injuries caused by the heat of the flame.

The first weed burners produced by Fijelen Research and Development Co. of Washington, D. C., utilized oil, or kerosene, as a fuel and required an air compressor to obtain the high velocity flame needed for good flaming. They were very complicated, expensive and temperamental.

In Two Parts—Part 2

(Continued from last month.)

Standards of Safety in Handling Liquefied Petroleum Gas

The liquefied petroleum gas systems used today are the result of the combined experience of many organizations whose primary thought has been to eliminate hazards and promote safety in every manner possible. Typical of the organizations cooperating in this effort are equipment manufacturers, insurance companies, Underwriters' Laboratories Inc., fire prevention officials, the National Fire Protection Association, the Liquefied Petroleum Gas Association, State liquefied petroleum gas organizations, and other bodies, each of which has submitted its ideas, helped develop new methods and equipment for handling the products, and devised methods of testing such equipment to determine its adequacy for the purpose intended.

Liquefied petroleum gases are obtained commercially from either natural gas or from gases produced in the refining of crude oil and extracted by absorption process or by compression, or both. These gases can be changed to a liquid state by application of moderate pressures, and this concentrated form permits economical shipping and handling.

At atmospheric pressure commercial propane boils at minus 44°F. (below zero), and at 70°F. develops approximately 124 psi.

A Report on Flame Cultivation of Row Crops by the Phillips Petroleum Co.

C. O. HENNEMAN

L. H. WRIGHT

gauge pressure. Normal butane has a boiling point of 32°F. (above zero) at atmospheric pressure, and at 70°F. develops approximately 34 psi gauge pressure.

It is evident, therefore, that at normal room temperature and at atmospheric pressure both of these fuels will be in a gaseous form, but because of their characteristics they can be kept liquefied at room temperatures by application of moderate pressures.

Liquefied petroleum gas has a number of characteristics different from most other gases, characteristics which are important to persons involved in handling and utilizing these gases:

(1) They are normally gases, but are generally stored and transported as liquids, under moderate pressure.

(2) They are non-poisonous and odorless in their normal state. (The products sold commercially are, however, normally odorized.)

(3) As gases, they are heavier than air.

(4) Combustible mixtures can be formed with lower percentage of gas in the gas-air mixture than most gases, but the total combustible range is narrower.

(5) The pressure exerted by liquefied petroleum gas in a container is entirely dependent on the temperature of the contents.

These gases contain no toxic components such as carbon monoxide and therefore are non-poisonous. They are slightly anesthetic when high concentrations are inhaled over a considerable length of time; the result would be an upset stomach and headache, which in themselves are excellent warning symptoms.

These gases are odorless in their normal stage. It is the custom, however, to odorize them by a warning agent which can be detected in low concentrations—concentrations which do not exceed one-fifth of the lower limit of combustibility. Since the lower limit of combustibility of butane is approximately 2% gas and 98% air, it means that the gas will be detectable in a gas-air mixture containing less than ½ of 1% of gas.

Addition of this odorant in specified concentrations is in accordance with the standards established by the National Board of Fire Underwriters, which standards have been adopted as regulations by a large number of states and are generally followed by distributing companies, even though state laws may not require it in some instances.

In direct contrast with the characteristics of manufactured gas and natural gas, these gases are heavier than air. With air equal to 1.0, the specific gravity of propane vapor is 1.52 and of butane vapor is 2.01. The specific

gravity of manufactured gas will vary from .40 to .70, depending upon the manufacturing process used, and the specific gravity of natural gas will vary from .60 to .70, depending upon its exact composition. It is important to remember, therefore, that ventilation must be provided at floor levels in the case of liquefied petroleum gases, instead of at upper levels, as is the case with manufactured or natural gas.

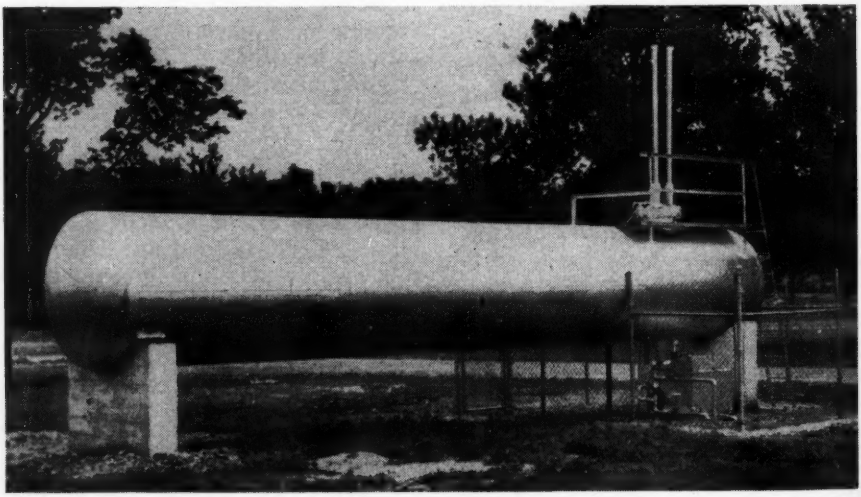
Probably the most important characteristic to remember in the safe handling, storing, and transporting of liquefied petroleum gas is that the pressure within the container is entirely a function of the temperature of the contents.

Installation of Equipment

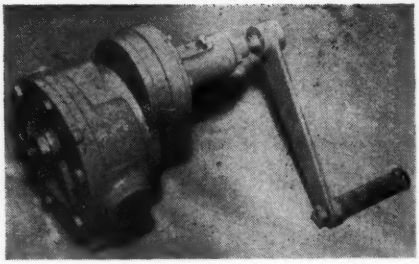
The installation of liquefied petroleum gas equipment is equally as important as its design and construction. Even though the equipment is properly designed and tested by recognized authorities as to its suitability for such use, such precautions will be of little value unless the equipment is also installed in accordance with the advice of such competent authorities. The standards established by the National Board of Fire Underwriters for equipment installations are generally accepted by the regulatory authorities.

In the case of aboveground, stationary equipment, these rules require, among other things, that the containers and first-stage regulating equipment be installed, (1) out-of-doors, (2) upon a firm foundation or otherwise firmly secured, and (3) a minimum required distance away from an opening which is below the top of the equipment.

The reasons for the minimum



Typical storage tank installation.



A hand operated pump.

spacing requirement are obvious. These gases in vapor state are heavier than air. If gas should, by some chance, escape from the equipment, it would have a chance to dissipate and mix with sufficient air so that the mixture of gas and air would be below the combustible limit before having an opportunity to accumulate in an enclosure where there might be a source of ignition.

Storage Tank

For efficiency in refueling and economy in purchasing, it is advisable to procure an aboveground fuel storage tank. Various sizes and types are available through local liquefied petroleum gas dealers on a sale, lease, or installation charge basis. This storage tank should have a minimum capacity of 500 gallons if it is to be used to refuel one flame weeder. Its capacity should be increased in proportion to the number of units. The storage tank should be constructed and installed aboveground according to regulations.

Minimum distances from the aboveground storage tank to a building allowed by the National Board of Fire Underwriters are as follows:

Water Capacity of Container	Minimum Distance
Less than 125 gals.	0 feet
125 - 500	10 feet
500 - 1200	25 feet
over 1200	50 feet

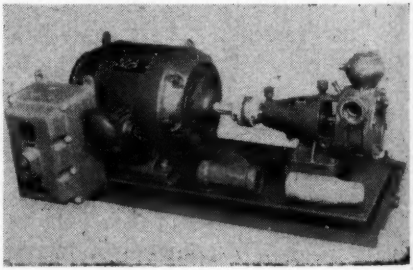
NOTE: Any container used in domestic or commercial service, where transfer of liquid is made from such containers into portable containers such as on tractors, flame weeders or similar applications, shall be located not less than 50 feet from the nearest building. This also applies to skid tanks. (1947 Revision of NBFU Pamphlet No. 58.)

Transfer Equipment

The liquefied petroleum gas dealer furnishing the storage tank will be in a position to secure transfer equipment of either the hand, electric motor, or gasoline engine types. All pumps will probably be of the rotary type to give rapid transfer in this low differential pressure type installation.

a. Hand Operated Pumps.

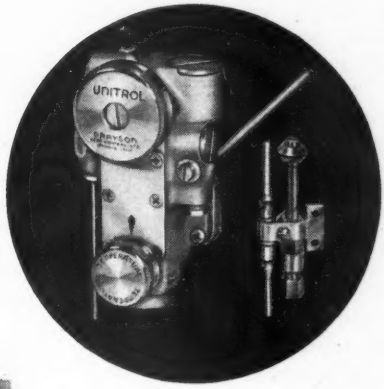
The hand pump selected should be designed for a 200 psi. working pressure and be approved for use with liquefied petroleum gas.



An electric motor drive.

NEW GRAYSON UNITROL "A"

100% shut-off of both pilot and main burner plus snap action thermostatic control.



advanced features:

1. Safer lighting — during pilot lighting operations gas cannot flow to main burner.
2. The control mechanism can be replaced without removing thermal element from the tank.
3. Pilot filter is built in ahead of pilot adjustment valve.
4. Greater capacity for all types of gases.
5. Constant working type safety closure valve assures positive shut-off.

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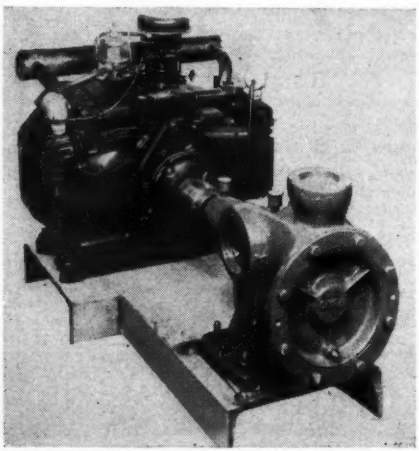
Regardless of the make of pump, it is important that an equalizing hose be used to allow a minimum pressure differential across the pump and thus reduce the force required to turn the pump and the time required to fill the tanks.

The suction side of the pump should be installed as near the bottom outlet of the storage tank as possible and at lowest possible level. Such a practice will permit liquid to flow into the pump when the bottom outlet valve is opened and reduce the possibility of vapor lock in the pump during the filling operation.

b. Electric Motor Drive

The motor, starter and wiring must be of the explosion-proof type approved for Class I, Group D locations. The pump and motor can be installed immediately adjacent to the tank so that the bottom outlet to pump suction is as short as possible.

No housing is required for the motor but should one be installed it must have air vents or louvers at the bottom to prevent the accumulation of gas around the motor.



A gasoline motor drive.

c. Gasoline Motor Drive.

The gasoline engine used for driving a liquefied petroleum gas pump must be of an approved design having all electrical wiring shielded and the exhaust properly muffled. It is important that the engine be so installed as to have good air circulation and no housing be installed that might permit the accumulation of liquefied petroleum gas vapors.

d. Skid Tanks.

Where tractors are to be serviced in the field it will be necessary for the operator to have a skid tank that may be moved to the field where flaming operations are being carried out. The pumping equipment will also have to be moved with the skid tank.

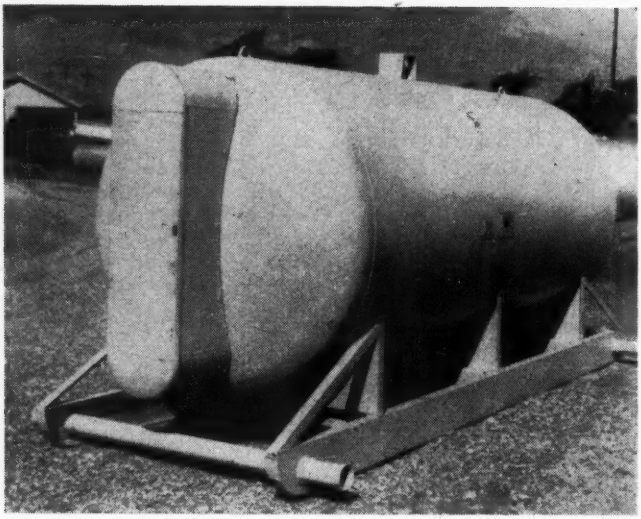
These may be in one unit, mounted on the same skids, or separate units if desired. In either case a flexible hose connection should be made from the liquid outlet of the skid tank to the pump to allow for vibration and bending while in transit.

e. Hoses.

All hose used on liquefied petroleum gas equipment must be of the synthetic type resistant to the solvent action of the gas. They are designed and tested for a burst pressure at least 5 times the designed working pressure recommended for the fuel (1000 lbs. for propane) with which they are to be used.

Filling the Fuel Tank

The fuel tank on the tractor should be filled each noon or night immediately following flaming operations. In order to facilitate liquid transfer in the filling operation, it is advisable to operate the



▲

A typical skid tank.

▼

burners on vapor feed from the tank the last few minutes.

In the case of the Sizz-Weeder, it is only necessary to operate without the aid of the exhaust vaporizer. In other systems, the liquid valve should be closed and the vapor valve opened. Such a practice will reduce the pressure in the fuel tank below that in the storage tank so that when the filling hose is connected the transfer of liquid to the fuel tank will be aided by this pressure differential.

The first step in filling the fuel tank is to set the filling gauge to the proper position, connect the liquid line and open the liquid valve. When the pressure in the fuel tank is the same or higher than the pressure in the storage tank, the vapor or equalizing hose should be connected and the equalizing valve opened. This will permit the vapors in the fuel tank to flow into the storage tank during the filling operation.

When pressures in the tank are equal, the refueling pump should be started. When liquid appears at the vent of the slip tube or maximum filling level is indicated on the gauge dial, stop the pump, shut off all valves and disconnect the hoses, being sure to replace the caps on the fuel tank connections to prevent dirt from getting into the valves.

The maximum filling level indicated on the gauge or dial should not be exceeded. As the temperature of the liquid content increases, its volume also increases. If properly filled, the tank will never be liquid full even if heated by the sun or atmosphere well above the filling temperature.

Should the tank be filled beyond the maximum filling level indicated, it may become hydrostatic or liquid

full at atmospheric temperatures. If a temperature increase should occur when the tank is hydrostatic or liquid full, the liquid will expand and force the relief valve open, discharging the excess amount of liquid to the atmosphere, creating waste and hazard.

If the servicing or filling of the tanks cannot be carried out in daylight, only explosion-proof flashlights or National Electric Code Class I, Group D, lighting equipment should be used.

CAUTION: The tractor should not be running and there should be no smoking, fire or sparks in the vicinity while filling a tank.

What To Do in Case of Fire

Suppose there is a fire at a location where liquefied petroleum gas equipment is installed and the equipment is exposed to excessive heat. What is the recommended procedure? First, bear in mind that the pressure in the container is proportional to the temperature of the product which it contains. Therefore, it is logical and desirable to keep the container as cool as possible in order to prevent, or minimize, the discharge of gas which would result from excessive pressure. This can be accomplished by applying a stream of water to the container.

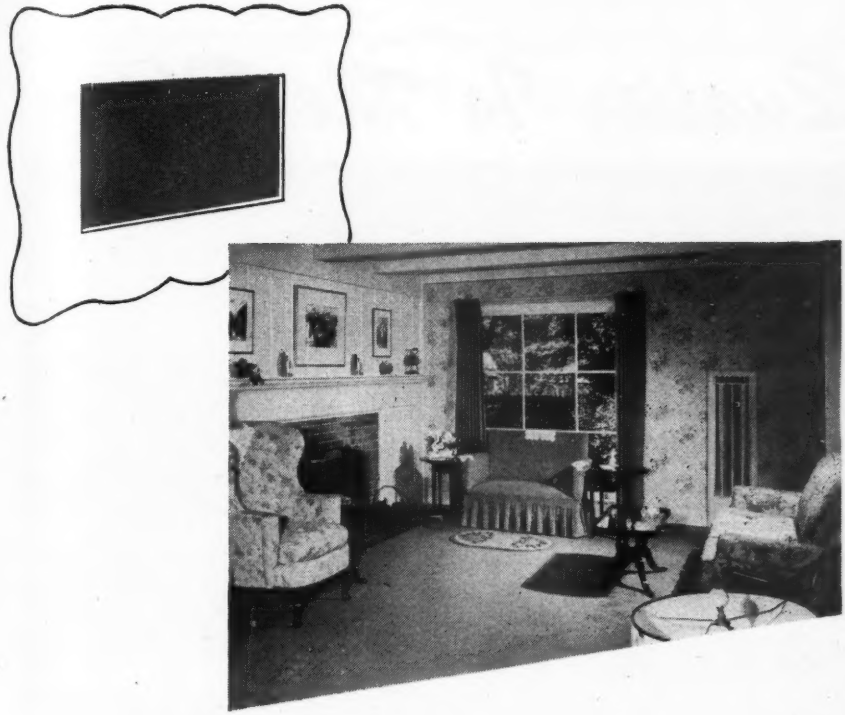
If the container's relief valve has opened and the gas being discharged through the relief valve is burning, play a stream of water on the container to cool the liquid and reduce the gas pressure therein. With the pressure reduced the relief valve will close.

If the container is equipped with a fusible plug which has opened, it is safest to let the escaping gas continue to burn until the contents are exhausted. Do not put out the gas flame while nearby sources of re-ignition remain.

Conclusion

Descriptions used in this discussion are based upon equipment being employed at the time of writing (January, 1947), and such equipment is constantly changing with the progress of the industry. Suggestions given with respect to the conduct of persons should be taken as helpful hints and not as a set procedure. With proper equipment suitably installed and carefully handled you are assured of the safe operation of your liquefied petroleum gas equipment.

New equipment, procedures, and techniques are continually being applied to flame weeding by the agricultural colleges and experimental stations throughout the United States. From these experiments will come new practices that can be advantageously applied to farming methods. The intelligent utilization of available information and the development of your own flame weeding technique and practices will effect many economics in your operations.



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Teen-Ager Today—Housewife Tomorrow

Sell 'Em While They're Young

By CHARLES O. RUSSELL
President
Liquefied Petroleum Gas Association

"JUST as the twig is bent, the tree's inclined." Whether expressed in those words of Alexander Pope or in the modern version—"Catch 'em young"—the idea is sound.

CHAS. O. RUSSELL

Not only sound, but good business practice. Why, for instance, does every forward-looking department store in the country emphasize its high school and college departments and hire teen-agers to work in them during holidays? Just for present-day sales? Not by a long shot—even though those sales may reach impressive totals.

The real purpoe is to gain permanent customers. The girl, now interested in the dress that will turn her into "an eyeful" at the next prom, will soon be the housewife who shops in every department.

And what has all this to do with LP-Gas? The same thing, of course. Within five short years, today's high school girls will be building homes and founding families. By that time, business conditions will be normal again—that is, LP-Gas will have plenty of competition for the consumer's dollar.

Is the industry going to trust to luck, hoping that the teen-agers will turn to LP-Gas for cooking, refrigeration, space heating, and water heating? Or are those who earn their living through the industry going to make sure of this potential customer?

Sowing the idea of LP-Gas in the minds of teen-agers now will insure an abundant harvest of sales just when such a productive crop is needed.

How can the LP-Gas industry sow the seed? The land has been plowed and the planting has been done by the Liquefied Petroleum Gas Association. All the industry has to do is get "in the groove," as the youngsters would say. Plowing has consisted of a broad program planned to educate the American public to the use of LP-Gas.

The particular seed just planted takes the form of a huge (44" x 34") wall chart that LPGA has put into the hands of 30,000 teachers of home economics in colleges, high schools, and junior high schools.

This chart, printed with attractive touches of color, is designed to be

tacked to the blackboard in the classroom. It is used as a "teaching tool" during the weeks in which teachers are conducting three basic home economics: Kitchen Planning, Fuels, Appliances.

And teachers everywhere are reporting favorable student reaction. Girls like the picture of an up-to-the-minute kitchen, as well as the many sketches that add interest to the chart. Displayed at the top of the chart are "14 points on kitchen planning" which are definitely "on the beam." They are practical because they recognize that all kitchens are not alike and, therefore, they suggest ways to make one's own plans.

The section on appliances—illustrated with sketches—shows what gas appliances are used in the home, and supplies details on their advantages.

Such an educational project is beneficial to the LP-Gas industry. Its value can be enhanced if local operators will cooperate closely with home economics teachers.

Members of the Association may obtain copies of the wall chart from the LPGA executive offices at 11 South La Salle St., Chicago. Displaying these charts in show windows and on showroom walls provides a direct link in public thinking between what is taught in the classroom and what is shown in the sales room. The chart also creates interest in LP-Gas on the part of the casual passerby who sees it in the window.

The use of the wall chart as an educational project undoubtedly affects current, as well as future, sales of LP-Gas appliances.

The big sales come tomorrow, when today's "slick chick" is building her own home. By taking advantage of LPGA's educational program for teenagers, the LP-Gas industry can be ready for the payoff!

J. H. DUNN

WM. F. LOWE

NGAA Looks Forward to Big Dallas Meeting

The Natural Gasoline Association of America meets in its 26th annual session in Dallas, Texas, April 23-25. The Baker hotel will again be headquarters.

J. H. Dunn, Shamrock Oil & Gas Corp., completing his second term as president, will open the three-day program which will include many important papers and talks on the natural gasoline industry.

One of the highlights of the convention will be the naming of the Hanlon Award winner, presented annually to the one who has contributed outstandingly to the scientific advancement of the industry.

As usual, the entertainment will be provided by the Natural Gasoline Supplymen's Association. William F. Lowe is secretary of both organizations.

Norman, Okla., Is Location For New Butane Company

Norman Butane Co., Inc., has been incorporated with $10,000 authorized capital stock by John H. Hunkel, E. J. Niedermaier and Mrs. Kenneth Perkins.

Headquarters for the company is in Norman, Okla.

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PUMP PROBLEMS

Four Services With A Single Pump

By R. STANLEY SMITH
Manager, Smith Precision Products Co., South Pasadena, California

MOST butane and propane distribution plants are today being expanded, or have plans to increase their capacity as soon as equipment is available. Where deliveries have been made principally by small tank trucks calling directly on individual consumers, new bottling plant equipment is being added at the yard to fill cylinders on a production basis and thereby make it possible to serve hundreds of new customers with a minimum of cost in service time.

R. STANLEY SMITH

In this issue, we show a diagrammatic layout of a plant using a single 100 GPM butane-propane pump to handle four services, namely: (1) unloading tank cars; (2) unloading tank truck and trailer units; (3) loading small delivery tank trucks; and (4) operating a four to six manifold bottling plant.

This particular layout is made for pump operation in one direction of rotation only. When used in connection with a reversing switch, considerable simplification of the piping is possible, since the in and out flow can pass through the same piping and valves. However, many users prefer single-direction operation.

We must emphasize, again, the importance of keeping the inlet line to the pump as free from restriction as possible, since pump capacity is largely dependent on gravity flow from the fluid source to the pump.

While it is difficult, in a simple sketch as shown, to present a layout other than in one plane, it will be readily understood that a considerably shorter inlet line from the tank truck unloading position would be possible if this unloading area were to be located directly behind the pump and to one side of the storage tank.

In connection with the inlet piping, one important consideration is to avoid abrupt changes in the direction of fluid flow such as occur in short radius ells, and particularly in globe valves and excess flow valves of small size. Such

changes cause far greater resistance to flow than any fluid friction developed in long, straight lengths of pipe. This is because the viscosity of butane or propane is extremely low, or about one-tenth that of water.

Experiments have proved that it is really not pipe line friction but the inertia losses through direc-

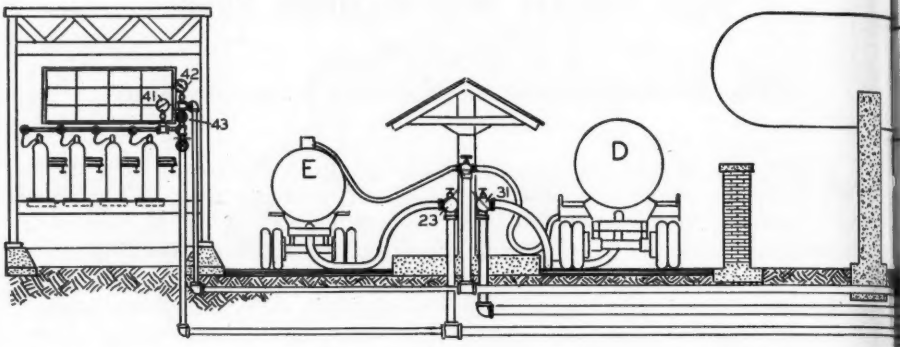


FIG. 1. This is a diagrammatic layout showing connections for unloading a tank car (A) to storage tank (B) by means of a positive displacement rotary gear pump (C). Two 2" hose connections (1) and (2) are connected to valve (3) by a Y connection. Fluid flow is through 3" line (4), valve (5), strainer (6), 100 GPM pump (C) and discharge line (7), valves (8) and (9) and excess flow valve (10), to storage tank (B). A 2" return vapor line is provided through excess flow valve (11), valve (12), pipe (13), valve (14), and hose connection (15).

For the initial elimination of vapor from

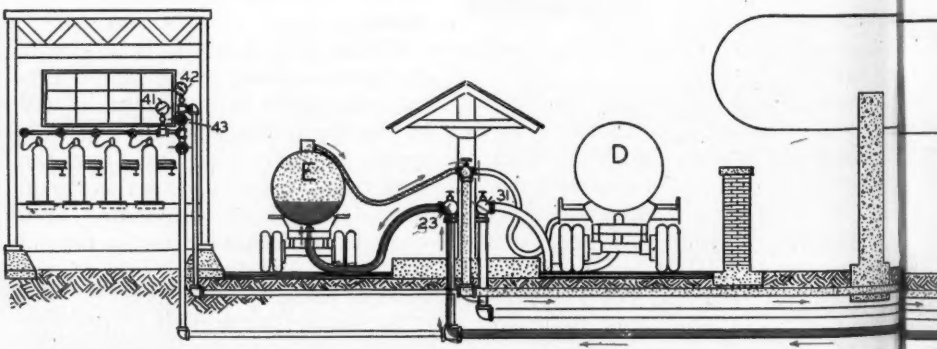
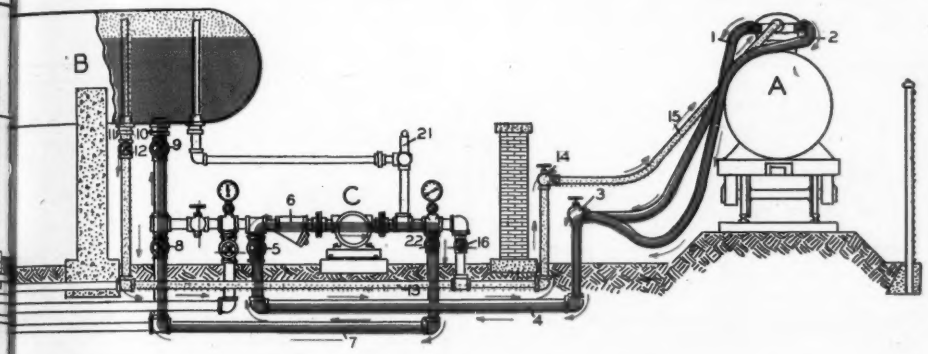


FIG. 2. The sketch above presents a flow diagram for loading tank trucks at station (E). Closed valves are indicated by the straight lines across the valve centers. In this use and other loading operations shown, there is no use made of the by-pass valve (21) other than as a safety element in case pump delivery is cut off as by valve (22) at the pump, or valve (23) at the loading rack.

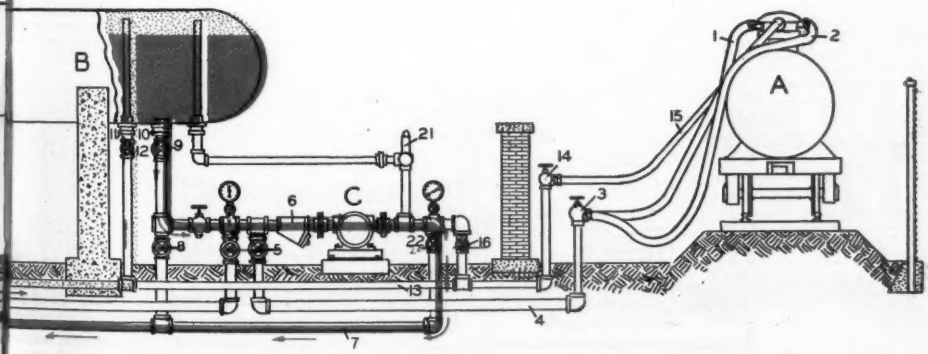
It is well to place stop and start explosion-proof push buttons at each of the

tional changes that result in the greatest resistance to flow; in other words, it is the actual total of energy lost in creating high velocities through restricted passages, over and over for each change of direction, in passing through each of the valves included in the line.

What we have often expressed, in advocating direct flow and large



the lines and to start the siphon lift within the tank car, valve (16) in the pump outlet may be opened. This reduces to practically zero the necessary pump differential operated against. As soon as a liquid flow is developed in the hose lines, and solid liquid is delivered to the pump, valve (16) may be closed. It will be apparent that direct delivery may be made to tank car loading station (E) by closing valve (8) and making the necessary connection to tank truck. This avoids the necessity of holding up loading operations during tank car unloading operations.



several stations, as at the pump, at the loading rack and at the bottling manifold. In this way the pump may be controlled from any of these working positions, and less by-passing of liquid under high pressure will be required.

Arrows in these drawings indicate the flow of fluid and return flow of vapor. The dead sections of piping are not indicated as containing fluid or vapor as this would confuse the line of flow under consideration in each of the sketches.

valve areas, applies specifically to the pump intake lines, since here there is no pressure to insure flow, other than that of gravity, for if pump suction is depended upon, this will reduce the pressure in the intake line to less than that in the storage tank, and this results in the development of a high vapor content in the pump intake, with consequent reduction in the volume of liquid output.

In the present article, we show all main lines running under-

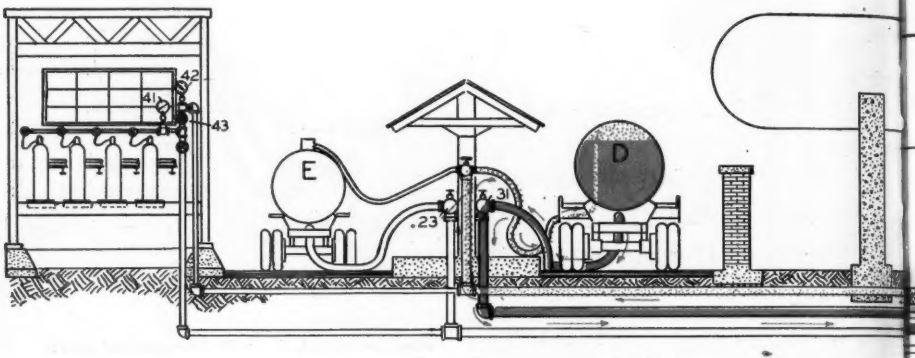


FIG. 3. This sketch indicates the flow of fluid when delivering a transport load in position (D) to storage tank (B). When delivery is made by a truck and trailer unit, a Y fitting should be provided on valve (31) at the truck station so that hose lines from both tanks can be attached at the same time, thus greatly reducing the total time of unloading.

As suggested in the text of this article,

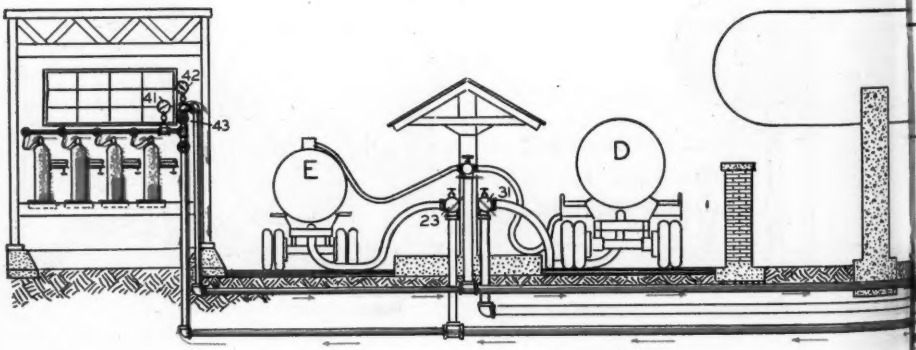
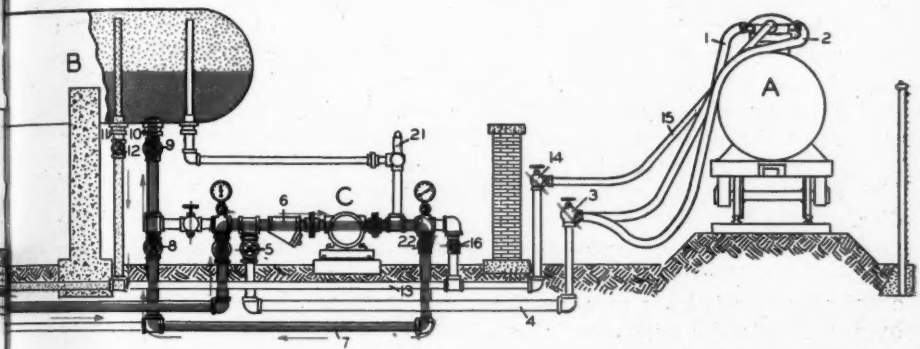


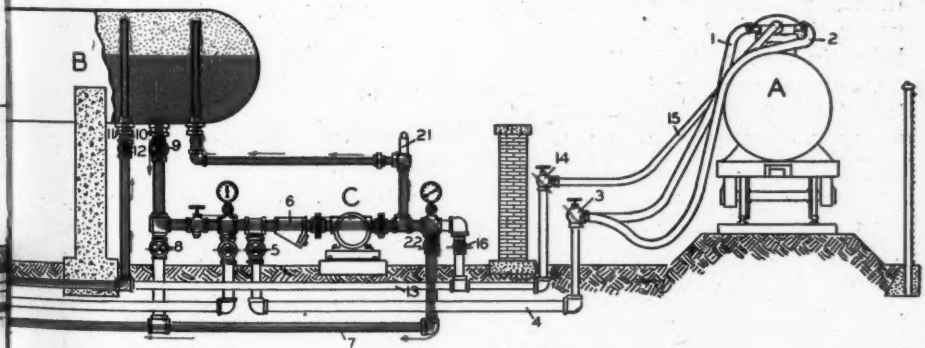
FIG. 4. Above is a flow diagram showing delivery lines and valving to a small 4 or 6 scale manifold. Since such a plant will absorb only a part of the full delivery of the pump, operation of the by-pass valve is shown. A differential pressure of 50 to 60 lbs. has been found very satisfactory and under this pressure four 100 lb. single valve cylinders may be filled in less than five minutes.

ground. This is a worth while safety feature, but has the slight disadvantage of having an initial liquid-filled vapor return line, and a consequent added resistance to vapor return, equal to the head pressure developed to raise this liquid to the top of the discharge point within the storage tank.

Another feature which we wish to emphasize is the importance of keeping the intake line level, or slightly inclined from the pump to the supply tank. This is so that any



the unloading position as shown in this diagram could be advantageously placed closer to the pump, such as in the position immediately behind the pump, alongside the storage tank. It is always important to keep the intake lines to any pump as short and direct as possible, although the points of delivery as to loading rack and bottling plant may be located further away when this is more convenient.



Approximately forty 100 lb. cylinders can be handled per hour by a single operator. Pressure gauges (41) and (42) are extremely valuable to enable the operator to watch his pressures. Valve (43) of the semi-needle type also is a great help to control the pressure and to release pump pressures when only one or two cylinders are being filled.

vapor which forms in the pump, will pass back through the line to the tank, and in this way avoid the possibility that sun heat on the pump will completely evacuate the liquid from the pump, as might be the case if the intake line were dropped to pass underground. When it is absolutely necessary that the pump inlet lines pass down from the pump, as shown here in Figs. 1 and 3, and the by-pass line can still be returned to the tank without such a dip, it is, in our experience, a wise precaution to drill a 1/8" hole through the by-pass valve disc.

This will permit any gas formed in the pump (as by sun heat) to constantly trickle back through the by-pass line to the tank, and insure that the pump temperature is kept the same as that of the tank fluid.

Insurance Against Vapor Lock

We consider this to be a very worth while feature to incorporate in any case, since it insures against vapor lock, and also materially helps in vapor elimination where metering is concerned. The volume loss through direct by-passing of liquid through this small hole will not be appreciable as compared with the total pump capacity.

In the accompanying drawings, we have shown how a single pump may be applied to carry four services. However, some users have preferred to locate one pump near the railway siding, exclusively for unloading tank cars. A second pump is then installed adjacent to the storage tanks for pumping to the loading rack. This, of course, is quite necessary if the storage tanks are located some distance from the tank car unloading zone, since it is always desirable to maintain the shortest possible connection from the supply source to the pump.

A third pump may then be put in for the sole purpose of handling the bottling plant. This system has the advantage of non-interference of one operation with another, since, in this way, the bottling plant may be operated at the same time that tank cars are being unloaded.

An important advantage of the single pump system, shown in the present writing, is that since the one pump can be made to serve all uses, a second standby pump may be kept in reserve, or when desired, installed beside the first pump with parallel piping. This second pump is then ready to take over the entire load at any time, should any emergency pump trouble develop. In many cases, this system affords a better insurance against possible delays in the event of necessary repairs.

Montana Group Changes Association Name

LP-Gas dealers of Montana, who recently formed a state organization, met in Helena recently to discuss legislative matters and to change the name of the organization.

Organized as the "Butane-Propane Association of Montana," the official name has been changed to the "Montana Liquefied Petroleum Gas Association," according to H. E. Gerke, president. Headquarters will remain at Billings.

Larger Consumer Tanks Best Guarantee Against Fuel Shortages

By O. D. HALL

F. DE LARZELERE

DEWEY WOOD

WITH the ultimate objective of securing larger consumer storage capacity, the Oklahoma Liquefied Petroleum Gas Association, at the close of an all-day meeting in Oklahoma City Feb. 20, voted to create a committee of seven to work out plans for selling larger tanks.

A motion by Earl V. Parker, of Ada, was adopted to appoint a committee composed of two appliance dealers, three fuel dealers and two producers to make a study and report recommendations to the Association. The committee members later named are: Charles Monroe, Perry, chairman; Forrest E. Smith, Oklahoma City; H. E. Wilkins, Blackwell; Paul Staude, Loyal; Howard Kirchner, Muskogee; Keith Clevenger, Tulsa; Paul Cruce, Bartlesville.

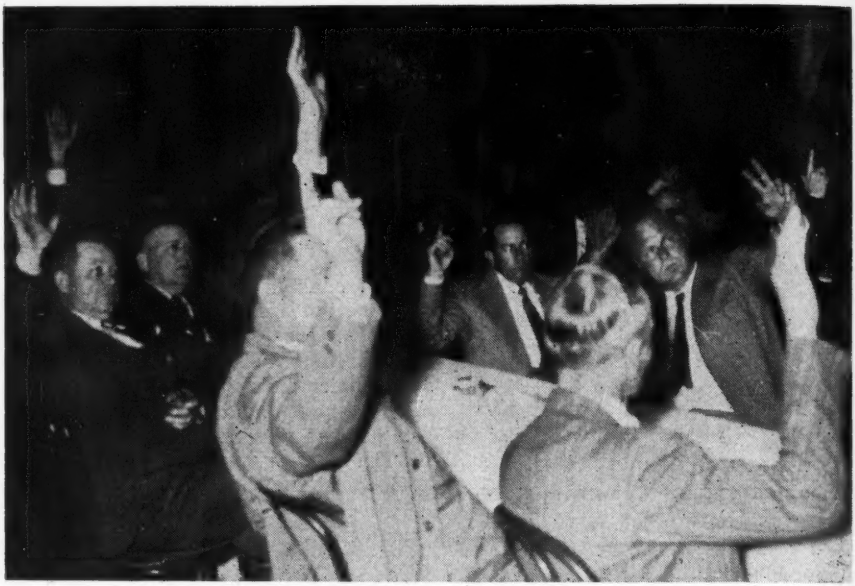
Starting with the general admission that recurrent fuel shortages during winter months are serious handicaps to the industry and that something must be done to relieve the situation before another peak demand period arrives, about 200 members of the association assembled in the Chamber of Commerce headquarters, heard talks from several leaders, conferred informally during a noonday luncheon and re-assembled for general discussion in the afternoon.

The meeting had been called by new officers of the association through Executive Secretary Fred Yates and was conducted by Dewey Wood, of Ardmore, first vice president. A panel of representatives of manufacturers of LP-Gas and of storage tanks led off the discussion with short talks.

J. T. Bradley, Warren Petroleum Corp., Tulsa, showed from a chart that sizeable surpluses of LP-Gas exist at refineries in the months from March to September. These dwindle to shortages during the remaining months of the year. "Buy LP-Gas while we have it," counseled the speaker.

This is not the final answer, Mr. Bradly said. "It is going to take large consumer storage to solve the problem," he declared.

J. S. Storm, assistant sales manager, Sinclair-Prairie Oil Co., Tulsa, declared that a purely summer load has a very desirable effect for the producer and the distributor but it does not expand the quantity of LP-Gas available for domestic use during the winter. Rather, this summer gas should be conserved for wintertime use by the domestic consumers, he believed.



Hands went up like this all over the meeting hall for a committee to plan for larger consumer storage when Acting President Dewey Woods called for a vote on the question.

"If every distributor would balance his requirements against his winter-time supply and not expand sales beyond this point, in the same way that your company has refused to expand our sales beyond the possibility of completely performing during the winter, the recurring shortages which existed during the last few winters, would never develop," Mr. Storm asserted.

An encouraging word for the industry was dropped by W. H. Rice, assistant manager, chemical products department, Phillips Petroleum Co., Bartlesville, who said his company is working on projects which are continually increasing recoveries of liquefied petroleum gases. He stated that enormous gains in demands for LP-Gas during 1946 and tank car shortages had been responsible for maladjustments of the supply at certain periods of the year.

Arthur Williams, Anchor Petroleum Co., Tulsa, referred to efforts of his company to secure more balanced loads and storage facilities among its customers. Action of his company in reducing its delivery areas to points not farther than 25 to 35 miles from the bulk station, was cited as helpful in reducing shortages by Parke H. Kooser, retail operations manager, Skelgas Division, Skelly Oil Co., Kansas City.

Tank manufacturers also demonstrated their interest in gas shortage problems by having representatives on the program and joining in discussion. Frank P. DeLarzelere, Southern Gas and Equipment Co., Tulsa, admitted that in the past there had not been too much cooperation be-

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April 23-25, Baker Hotel, Dallas, Texas

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The Bristol Company
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Joseph A. Coy Company, Inc.
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Dresser Engineering Co.
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The Fluor Corporation, Ltd.
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Greene Brothers, Inc.
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The National Supply Co.
National Tank Company
Naylor Pipe Company
Nordstrom Valve Company—Division of Rockwell Manufacturing Co.
The Oil & Gas Journal
Pacific Pumps, Inc.
Peerless Mfg. Company
Perco—Division of Phillips Petroleum Co.
Perry Equipment Company
Petroleum Engineering, Inc.
The Petroleum Engineer
Petroleum Refiner
Pipe Line News
Pittsburgh Equitable Meter Division Rockwell Manufacturing Co.
H. K. Porter Co., Inc.
J. F. Pritchard & Company
The Refinery Supply Co., Inc.
A. O. Smith Corporation
The Stearns-Roger Mfg. Company
Superior Mfg. Co.
Taylor Instrument Companies
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Tulsa Boiler & Machinery Company
Union Steam Pump Sales Company
Vinson Supply Company
Henry Vogt Company
Walco Engineering & Construction Company
Walworth Company
Westcott & Greis, Inc.
Western Supply Company
Woobank Machinery Company
World Petroleum
Worthington Pump & Machinery Corp.
Wyatt Metal & Boiler Works
John Zink Burner Company

tween tank manufacturers and dealers to find a solution for fuel shortages. He called attention to formation of a fabricator's section of the Texas Butane Dealers Association and suggested similar affiliations in other states.

Should Even Out Tank Demands

He also suggested adopting a plan similar to that used in the natural gas industry, based on a degree-day. "I think the time has come when everybody in the fabricating end should give some sales help to dealers in evening out demands for tanks. There are hundreds of calls for tanks in November and December while there are practically no demands for them from many of the dealers in the summer."

Keith Clevenger, of Tulsa, advertising and publicity manager for the Southern Gas and Equipment Co., showed the LP-Gas people that his company has a comprehensive dealership-help program almost ready to release.

It includes factual charts, posters, and a booklet which will help the dealer to figure out the exact requirements of his customers without under selling or over selling them on the size. It also will enable the dealer and distributor to carry out a newspaper and radio advertising campaign and to circularize his customers at low cost.

The tank firm is prepared to bear from 40% to 50% of the cost of furnishing this service, Mr. Clevenger announced. This program, he said, would be carried out in each of the 18 states where the company does business.

Charles Monroe, Northern Oklahoma Butane Co., Perry, Okla., declared that more bulk storage by dealers and distributors may help but can't solve the LP-Gas shortage problems. "You might go out to some of your customers who have small tanks and sell them on buying a larger tank to set right beside their old one. In our territory we won't sell under a 400 gallon tank. This is the minimum size required, based on a degree-day calculation," said Mr. Monroe. He expressed doubt that dealers would ever acquire a perfectly balanced load. Larger consumer tanks, he believed, is the only solution.

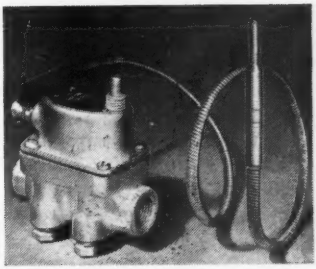
Harry Canup, sales manager for Hales-Mullaly, Oklahoma City, statewide distributors of natural gas and LP-Gas appliances, made a short talk in which he advocated greater responsibility in selling good appliances and equipment and in making proper servicing of this merchandise the first consideration.

Some Users Are Dubious

General discussion revealed that while nearly everybody in the industry agrees that larger consumer tanks, if generally installed, would relieve winter shortages, all did not concede that such a solution is possible. While some dealers reported success in pursuading farmers and other home owners to purchase larger tanks, others said they found much difficulty in selling customers on larger storage when their dealers in some instances this winter had not been able to keep their smaller tanks filled.

Those who are reporting a degree of success, stated that they are convincing consumers that if they have larger storage their dealer can fill their tanks in the fall and again in the spring, and keep them supplied the year around. This method, the large consumer tank advocates said, helped to make more satisfied customers, reduce the cost of delivery of gas to them and greatly reduce their

New MR-2 SAFETY THERMOPILOT



THIS new electro magnetic thermopilot assures unfailing safety in gas control applications. Used on space and unit heaters, central and floor furnaces, water and range heaters, hot water and steam boilers. Handles manufactured, natural or LP-Gases.

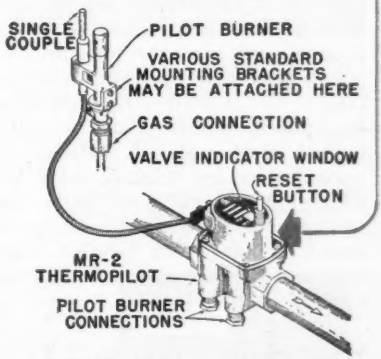
On the installation diagram, the new MR-2 valve and the new 26-R Pilot Burner are used for out-pilot safety control. No outside current is required. Valve holds open until released by pilot-flame failure. 100% gas shut-off will be maintained until pilot light is reignited and valve manually reset by push button.

For further information, contact your nearest factory branch or distributor, or write for Catalog 52-B and Manual F1-101.

Check these outstanding features:

- Streamlined design.
- High-flow capacities.
- Visual valve position indicator.
- Design simplicity.
- Sealed electro magnetic assembly.
- Heavy duty 5/16 round thermocouple.
- Flexible armored cable leads.

MR-2 INSTALLATION



GENERAL CONTROLS
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FACTORY BRANCHES: Philadelphia, Atlanta, Boston, Chicago, Dallas, Kansas City, New York, Denver, Detroit, Cleveland, Pittsburgh, Houston, Seattle, San Francisco. Distributors in Principal Cities.

chances of being out of fuel in the wintertime.

Some others who discussed the subject declared that getting out into their delivery territory every month or two, and being ready to service appliances and equipment while in the field was the most important consideration. "If you induce your customers to put in 1000 gallon tanks and fill one of them at a time, you have to go back to your storage for more gas to fill the others and I cannot see where delivery costs are materially reduced," one man said.

Some others advocated a higher price per gallon for LP-Gas to go into a small tank than for filling a 500 or 1000 gallon tank. This differential would encourage consumers to install larger tanks, they believed.

Considerable opposition was expressed in the meeting to House Bill No. 107, pending in the legislature, which proposes to classify LP-Gas dealers and distributors as public utilities. The bill was about to be placed on legislative calendars for action as the meeting was being held. Most association members in attendance agreed that the measure, if enacted, would be harmful, if not ruinous, to the industry. By making dealers public utilities they would be barred from selling LP-Gas appliances under an existing state law in Oklahoma which prohibits public utility companies from selling appliances. Hundreds of LP-Gas distributors and dealers also sell and service appliances.

Texas Dealers Take Stand For Larger Consumer Tanks

The board of directors of the Texas Butane Dealers Association adopted a project at its meeting in Dallas on Feb. 6 which will result in a statewide publicity and advertising program designed to sell the public upon the use of larger sized gas systems, according to William J. Lawson, executive secretary of the Association.

The decision of the Association to sponsor a program directed at the consumer was motivated by the realization that adequate storage facilities for summer-time production should, if possible, be at the consumer level. The Association is working with the refiners in an effort to have them enlarge their storage facilities, and it is also urging dealers to survey their own needs and provide more storage before next winter if their present facilities are found to be inadequate.

Mississippi Joins Other States In Large Storage Campaign

Consumers of liquefied petroleum gas are asked to cooperate in preventing occasional shortages of those fuels in an open letter sent out by the Office of Chief Inspector, Liquefied Petroleum Gas Equipment division, Office of Motor Vehicle Comptroller, State of Mississippi.

The letter gives several reasons why consumers have been experiencing occasional shortages of LP-Gas this winter:

1. Synthetic rubber manufacturers use butane all year around to manufacture synthetic rubber.

2. During cold weather the manufacturers of gasoline are mixing about twice as much butane into their gasoline as the amount of LP-Gas required normally for heating and cooking all over the country.

3. During the cold weather season butane gas is also being mixed with natural gas or manufactured gases to step up their heating qualities at many places.

4. Butane is being used in the manfacture of plastics.

5. Shortage and other diverted uses

Thousands of housewives are waiting to buy new, modern gas ranges. They have the desire, and the means, to buy the *best*. Our consumer advertising program is telling these women that ranges equipped with the Harper Center Simmer Burner are definitely superior... that the Harper "2 burners in 1" top burner saves up to 39% on gas, keeps kitchens up to 9 degrees cooler, saves hours of kitchen pot-watching weekly, and makes possible many other advantages symbolized by the Harper seal.

You can *demonstrate* these advantages to your customers. There is no surer way to close sales on higher-priced ranges... to augment the position of gas as the ideal cooking fuel through promoting appliance improvements that give better cooking results. Scores of helpful pointers on how to demonstrate effectively are contained in our booklet "How to Sell More Gas Ranges." Copies are available for your staff—FREE. Simply address: Harper-Wyman Company, 8563 Vincennes Avenue, Chicago 20, Illinois.

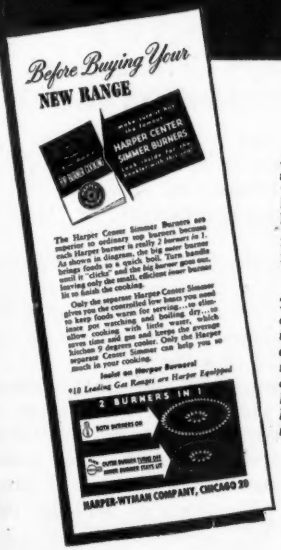
NOW...we're telling your Customers-

about the new, improved

HARPER

CENTER SIMMER BURNERS

...in leading magazines



OVER 21,500,000 READERS!

Advertisements like the one shown here appear in the following publications, having a combined monthly readership of more than 21,500,000 women:

Ladies' Home Journal
McCall's
American Home
Better Homes & Gardens
Woman's Home Companion

Tie-in with this consumer advertising... *demonstrate* and talk the advantages of the Harper Center Simmer Burner when these women come in to *buy!*

The Harper Center Simmer Burner operates on the unique principle of "2 burners in 1"...a STARTING BURNER for frying and to start foods boiling, plus a small, economical COOKING BURNER, to maintain the cooking...both controlled by the same handle. It is subject to finer gradations of low heats—greater control and economy—than any other top burner made.

HARPER CENTER SIMMER BURNER

...Holds the Lines for Gas"

HARPER CENTER SIMMER

of railroad tank cars during fall and winter for transporting butane and propane from refinery to the dealers storage facilities.

6. The greatly increased number of new domestic users of this gas.

Many other new and expected uses for butane and propane are expected to develop in the near future.

The letter further states that during the spring and summer the above demand falls off to a large extent and butane and propane are then relatively plentiful, and "it is suggested that you personally could perhaps safeguard against this shortage or scarcity of butane and propane during fall and winter in your own individual cases, by having sufficient tank storage to supply your needs for about one-third to one-half year's usage.

"Your tank container should positively be filled by Sept. 15 or Oct. 1 of each year and hold sufficient storage to fulfill your need to the early spring of the following year.

"The dealer or distributor probably will be forced to increase the price of this gas during the time of its shortage or scarcity. So it should be in your interests to buy your gas during summer months when it probably would be cheaper per gallon."

Nebraska Firemen Seek Adoption of Safety Regulations

A bill will be introduced at the 1947 session of the State Legislature to establish regulations for refrigerators, ranges, and other appliances using liquefied petroleum gases, and empowering the state fire marshal to establish regulations for transportation, storage, and handling of such gases, the legislative committee of the Nebraska Volunteer Fireman's Association decided at a meeting held in Lincoln in December.

Need for prompt action was pointed out by Ralph T. Hawkins, Auburn, president of the association, who said that because Nebraska has no regulations it is becoming the dumping ground for appliances and other equipment which fail to measure up to the safety requirements of other states. State Fire Marshal E. C. Iverson reported that many inadequate installations have already been made and fires and explosions have resulted.

Industry representatives at the meeting reported that there are about 150,000 liquid gas installations in Nebraska at the present time, or nearly five times as many as existed in 1941. Such gas installations were greatly increased in 1946 in rural communities and small towns not served by regular gas mains, and the sale of these gas appliances is increasing by leaps and bounds, for use in household heating, cooking, refrigeration, power, and transportation.

A. O. Smith Corp. Enlarges Tank Manufacturing Plant

Enlargement of a recently purchased plant from the Government has been undertaken by the A. O. Smith Corp., tank manufacturer at Houston, Texas.

Between the two steel buildings now standing a connecting structure will be added at a cost in excess of $150,000. The present buildings are 80 feet wide by 420 feet long.

According to B. F. Bart, general manager, steel tanks for storage of butane and propane are now being manufactured and in the near future pressure vessels for the use of chemical and oil industries will be produced.

Let this TAPPAN poster pave the way to *new L P Sales* for you

COLORFUL to attract attention. Weather resistant and durable, it will carry your L P message for many months. Size 36 inches by 28 inches. You can use it as highway poster, as window or counter display in your store, or on board in front of homes while making installation. Offered to Tappan dealers at less than cost—25¢ each including your imprint. Order now and give us your company name as you want it to appear, and type of fuel if that should be included.

THE *TAPPAN* STOVE COMPANY • MANSFIELD, OHIO

For 66 years, makers of fine ranges

QUIZ — Space Heating—Part 1

• *This department is a monthly feature to stimulate thought and to give operators basic industry facts. Clip out for your notebook or file in a standard, 3-ring, loose-leaf binder. Sources of information: The Bottled Gas Manual, Handbook Butane-Propane Gases.*

Questions	Answers
1 When can LP-Gas be used for general space heating?	When the method of distribution is such that the fuel can be sold at prices but slightly higher than oil.
2 When is space heating with LP-Gas possible even though the fuel is sold at prices considerably higher than other competitive fuels?	In locations where the climate is such that continuous heating is not necessary.
3 Why is LP-Gas favored against less expensive liquid and solid fuels?	Cleanliness and convenience, safety, ease of control, and moderate cost of initial installations make LP-Gas the favored fuel.
4 Is the heating load, alone, worth going after?	Dealers set up to handle bulk deliveries can justify solicitation of the heating load if they can prevail upon the user to install storage large enough to prevent many deliveries during the heating season.
5 Does the heatig load lead to other business?	The heating load is usually easy to sell and when a consumer has an LP-Gas installation installed, the conversion of the home to all LP-Gas use is made easier.

6

Is any heating load possible on bottled gas installations?

Small space heaters such as radiants can be used but care should be taken to see that the connected load is not greater than the gas making capacity of the cylinders.

7

Why is electrical space heating used so little?

The heat input demand is so great for space heating that the electrical distribution systems cannot take the load without tremendous increase in plant facilities, with resulting higher cost.

8

Conversely, why is LP-Gas an ideal heating fuel?

The fuel is available in the tank at the place of use, the capacity of the heater can be made considerably oversize to care for quick warm up, and the total use of fuel can be made economical by thermostatic control of room temperature.

9

Where is LP-Gas for heating in the least advantageous position?

In areas with long, cold winters where the heat load is continuous day and night for a period of months.

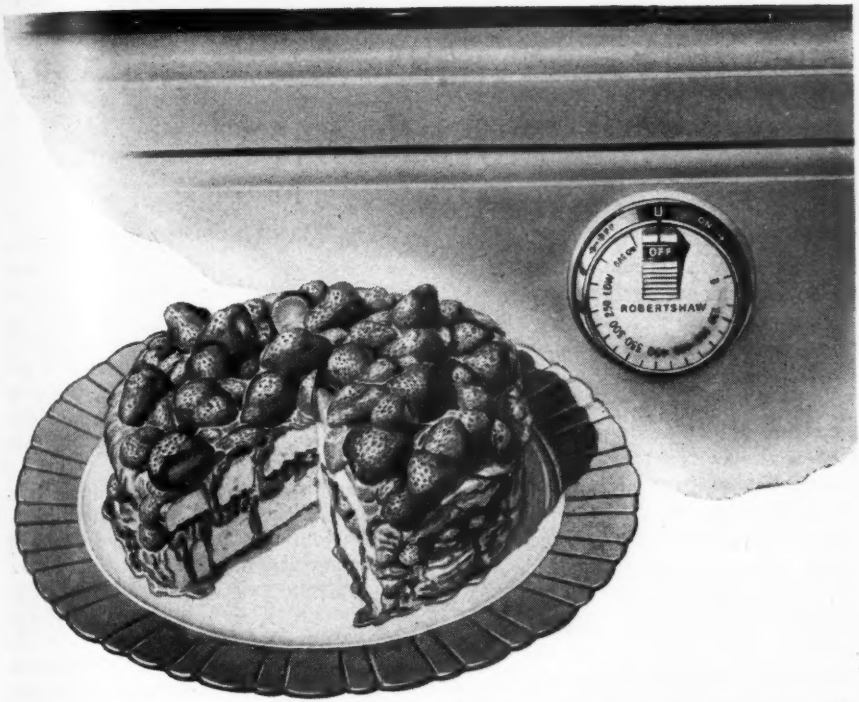
10

Why is LP-Gas fuel at a disadvantage in these locations?

The total cost of fuel per year is such a large item that a large investment in equipment to utilize low grade fuels is justified by a yearly saving great enough to amortize the investment over a reasonable time and justify the additional labor and maintenance incurred.

SUBJECTS TO BE COVERED IN FORTHCOMING ISSUES:

- **Space Heating**
- **Tools for Your Kit.**



ROBERTSHAW

Oven heat control will help you sell ranges

FREE FOR RANGE SALESMEN—The buyers' market is coming. This manual is a concentrated course in effective range selling. It provides readers with 38 pages of useful information for the day when selling will again be required. It shows how the modern range, used fully, can make savings in fuel and food that will soon pay its cost and leave a margin for other home appliances. Write for copies of "More Income For Gas Range Salesmen"

ROBERTSHAW THERMOSTAT CO.
YOUNGWOOD, PENNSYLVANIA

10-Year Cylinder Test Period Approved By ICC

THE Interstate Commerce Commission has amended its Regulations concerning the retesting of cylinders, to extend the retest period from five to 10 years for the initial retest.

The amendment provides for subsequent retest at 10 year intervals when the water jacket test method requiring cylinder expansion data, is used; also, as an alternate, subsequent retests at five year intervals when a modified test method is used. The latter method is a simple hydrostatic test, at prescribed test pressure of the cylinder, with examination of the cylinder while under pressure for visible defects.

The revision of the regulations adds a requirement for careful examination of each cylinder at the time of each filling, and removal from service if evidence is found of conditions that would render the cylinder unfit for service.

The new ICC regulations, which became effective Feb. 24, 1947, follow:

Amending par. (p) (14), sec. 303 order Aug. 16, 1940, to read as follows:

(Add) (p) (14) (n) Cylinders made in compliance with specification ICC-4B used excusively in non-corrosive gas service and protected externally by suitable corrosion resisting coatings, (such as galvanizing, painting, etc.), may be retested decennially instead of quinquennially, or, such cylinders may be subjected to an internal hydrostatic pressure equal to at least 2 times the marked service pressure without determination of expansion (see note), but this type of test must be repeated quinquennially after expiration of the first 10-year period.

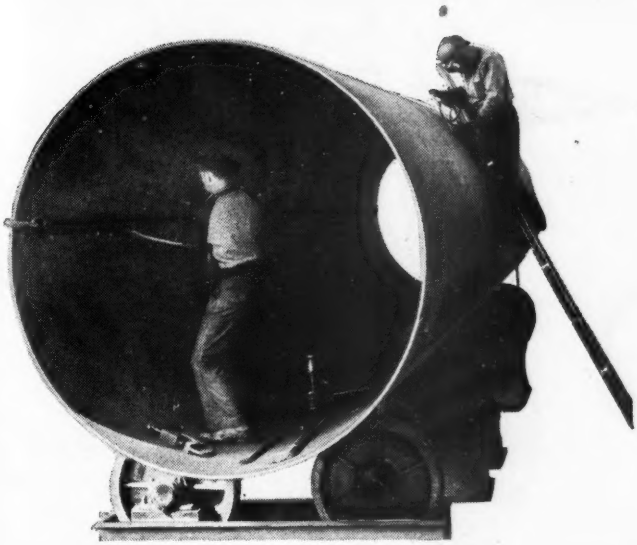
When subjected to this latter test, cylinders must be carefully examined under test pressure and removed from service if leaks or other harmful defects exist. All tests must be supplemented by a very careful examination of the cylinder at each filling, and must be rejected if evidence is found of bad dents, corroded areas, a leak or other conditions that indicate possible weakness which would render the cylinder unfit for service.

Note: Cylinders tested by the modified hydrostatic method shall be marked after each retest with the date of test as otherwise required but followed by the symbol S; for example, 8-46S indicating retest by the modified method in August, 1946.

Homer L. Braswell Incorporates New LP-Gas Company

The Butler Butane-Propane Gas Service, Inc., has been incorporated with $15,000 authorized capital stock by Homer L. Braswell, Bernard V. Caine and Walter Lofland to operate a butane and butane appliance business.

The home office of the company is Hickman Mills, Mo.



Built WELL...for SAFE STORAGE

You are assured of the ultimate in safety and trouble-free service when your propane or butane-propane mixtures are stored in ACF fusion-welded tanks.

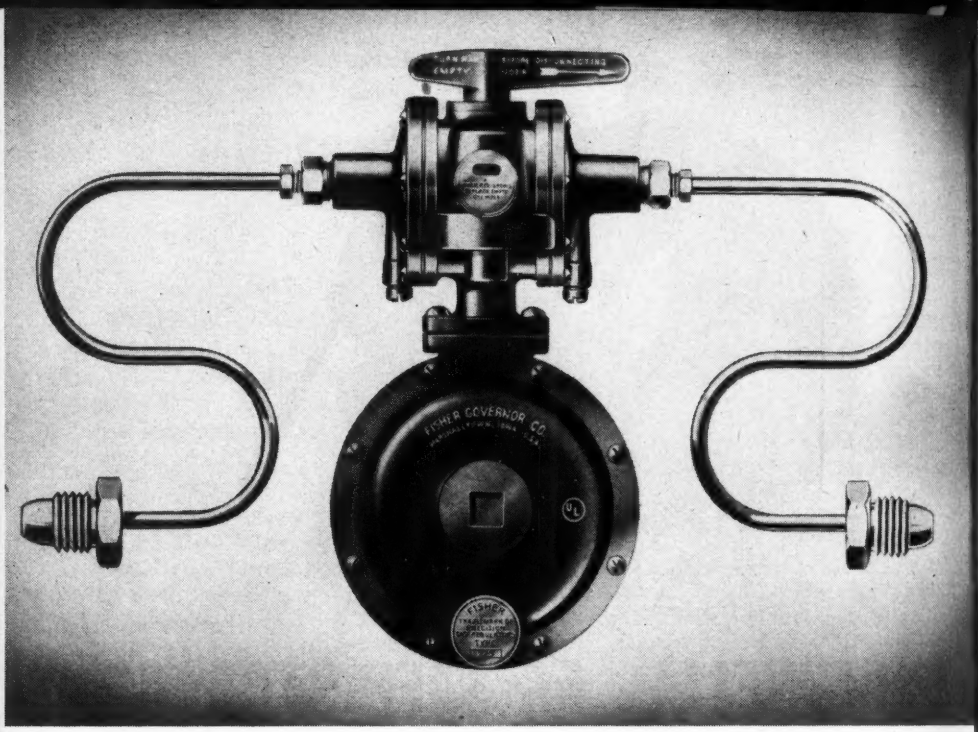
Our testing procedures are set to standards well *above* those of all existing regulations. In U-68 tanks, all weld seams are X-rayed to reveal any imperfection after which the tank is stress relieved as a unit. Thorough grit blasting assures a strong bond for painting—eliminating dangers of corrosion.

Storage tanks are available in capacities up to 30,000 gallons. Let us know your requirements.

STORAGE TANKS

AMERICAN CAR AND FOUNDRY COMPANY
New York • Washington • Philadelphia • Chicago
St. Louis • Cleveland • Pittsburgh • San Francisco

American Car and Foundry Co.



FISHER Type 925 AUTOMATIC CHANGE-OVER REGULATOR

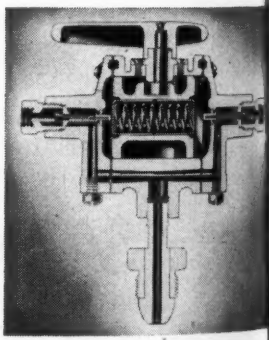
A domestic multiple-cylinder automatic change-over regulator recommended for applications where a constant gas supply is demanded. Indicator provides warning when "SUPPLY" cylinder is exhausted and gas is being drawn from "RESERVE" cylinder. Thow-over handle used only for cylinder exchange.

SPECIFICATIONS

Capacity—100 cu. ft. per hr. or more, Propane.

Setting—11" W.C. at 100 lbs. Propane, 30 cu ft. per hr. flow.

Relief Valve—Integral diaphragm type set at 1 lb.



Type 945 Automatic Change-over Manifold for converting regulators now installed to automatic systems.

FISHER GOVERNOR COMPANY

994 Fisher Building, Marshalltown, Iowa

WESTERN OFFICE: 2334 E. 8th St., Los Angeles 21, Calif.
EASTERN OFFICE: 212 E. State St., Westport, Conn.

Sales Training School Will Combat Electric Propaganda

THE board of directors of the Oklahome Liquefied Petroleum Gas Association at a meeting March 7 approved a plan for a series of meetings at key points in Oklahoma to conduct a sales training school for the purpose of meeting electric competition.

The board appointed J. V. Stewart, Stewart Hardware Co., Medford, Okla., to have charge of the sales training program. Dates for the meetings had not been set when this was written but the data upon which the instruction will be based is already in the hands of the association, Fred Yates, executive secretary, announced.

Instead of meeting in a group at a central point, board members were hooked up on telephone connections in their offices and talked to one another under the telephone conference plan. Mr. Yates said that every member of the board was brought into the long distance conference and the meeting was over in about 35 minutes.

The training program of the Oklahoma Liquefied Petroleum Gas Association has been arranged to offset a program of cooperation formulated by the National Electrical Manufacturers Association and the Edison Electrical Institute which was organized last fall to meet the growing competition of LP-Gas in rural areas.

The N.E.M.A. issued a sales promotion plan booklet which was distributed to about 650 private utilities, 1000 municipally-owned utilities, 950 co-ops. It keynoted the slogan, "Go All-Electric the Modern Way."

In a report circulated to electric utility executives earlier last year the N.E.M.A. emphasized three reasons why the electrical industry should get busy. First, it was declared, "Opportunities for building domestic power load depend heavily on use of electricity for cooking and heating; the small town-rural market offers the best possibilities for increasing this load because of the growth of rural electrification."

To these arguments was added the following admission: "Bottled gas already has captured one-seventh of this small town-rural market; even in territories 85% wired for electricity, it has made great inroads."

Mr. Stewart will select men in the LP-Gas industry to assist him in training and instructing those who attend the group meetings on advantages of LP-Gas over electricity from both an economic and heating efficiency standpoint.

Georgia LP-Gas Association Holds Spring Meeting in Albany

The Georgia Liquefied Petroleum Gas Association held its first meeting of the year on March 3 at the Radium Springs Hotel, Albany, Ga., according to Fred A. Rives, secretary and treasurer.

The program, largely arranged by President W. B. Wight, included talks by Colonel Ellsworth L. Mills, The Bastian-Blessing Co., Chicago, and L. L. Peters, Southern sales manager, American Stove Co.

The theme of the meeting was "Why I Came South."

New Regulations Cover Non-ICC Cylinders And Fusion Welded Seam Construction

THE Interstate Commerce Commission has published two amendments to its Regulations and Specifications of special interest to owners and manufacturers of LP-Gas cylinders. The orders became effective Dec. 31, 1946.

The regulations now authorize non-ICC cylinders that were in LP-Gas service prior to June 15, 1943, under State jurisdiction, to be continued in intra-state service.

And ICC Specifications 4B has been amended to permit construction of a container having longitudinal fusion welded seams.

Here are the amendments:

(1) Superseding and amending par. (n) (2), sec. 303 (Liquefied petroleum gas) order Dec. 18, 1941, and Jan. 25, 1945, to read as follows:

(n) (2) Spec. 3, 3A, 3B, 3E, 4, 4A, 4B, 4B240X, 4B240FLW, 25, 26, or 38.—Cylinders authorized under 303 (p) (2) to 303 (p) (6) may be used.

Because of the present emergency and until further order of the Commission, non-ICC specification containers used for liquefied gases prior to June 15, 1943, under laws and rules, or regulations of the States in which they are located, and so long as they are maintained in safe transportation condition, are authorized for use in the transportation of those gases by common, contract, or private carrier by motor vehicle, in intra-state commerce only, within those states. All other requirements of the Commission for such transportation must be complied with. This authority does not apply to cargo tanks of tank motor vehicles.

(2) Amending Spec. 4B, order Aug. 16, 1940, as follows:

(Add) 23.—Special type with fusion-welded longitudinal seam authorized because of the present emergency and until further order of the Commission. Cylinders to have 240 pounds nominal water capacity, a service pressure of 240 pounds per square inch, and be made in compliance with all the requirements of this specification, except those applicable to longitudinal seams, and with all of the following additional requirements, which apply to cylinders with fusion-welded longitudinal seams;

(a) Cylinders shall be inspected by competent and disinterested inspectors acceptable to the Bureau of Explosives.

(b) Steel shall be plain carbon steel of American Society for Testing Materials firebox quality with carbon content not in excess of 0.25 per cent.

(c) Calculated wall stress at two times the service pressure shall not exceed 18,000 pounds per square inch.

(d) Each cylinder shall be thermally stressed-relieved after all initial welding and seam repair welding operations have been completed and prior to the hydrostatic test.

(e) Each cylinder shall be subjected to the hydrostatic test as specified in paragraphs 13 (a), (b), and (c) of Specification 3A. Test pressure shall be at least two and two-thirds times the service pressure. Following this test, each cylinder shall be subjected to a dry air-pressure test of

two times the service pressure. The cylinder shall be thoroughly dry before air test is applied, and during test welded seams shall be examined for leaks, either by sumerging the cylinders in liquid, or by painting all welded seams with a solution suitable for the detection of leaks.

(f) (1) Longitudinal fusion-welded seam shall be of the double-welded butt type. Filler metal may be added from one side when and if means are provided for accomplishing complete penetration and reinforcement on both sides of the joint. Welding procedure and welding operators shall be qualified for the manufacture of pressure vessels in accordance with paragraphs U-69 of the Rules for Construction of Unfired Pressure Vessels, Section VIII of the American Society of Mechanical Engineers Boiler Construction Code, 1943 Edition including Addenda to 1946 Edition.

(2) One finished cylinder out of each lot, which appears to the inspector to be the least likely to meet the test, shall be selected by the inspector from each lot of 200 or less successively produced and shall be hydrostatically tested to destruction and shall not burst at a pressure less than six times the service pressure.

(3) Guided Bend Test. A bend test specimen shall be cut from the cylinder used for the physical tests specified in paragraph 15(a). Specimen shall be taken across the seam, shall be 1½ inch wide, edges shall be parallel and rounded with a file, and back-up strip, if used, shall be removed by machining.

The specimen shall be bent to refusal in the guided bend test jig illustrated in Appendix to paragraph 22 of Specification 4B effective December 18, 1941 (except that the radius of the male member shall be two times the nominal thickness of the specimen and the radius of the female member shall be three times the nominal thickness of the specimen plus 1/32 inch). The root of the weld (inside surface of the cylinder) shall be located away from the ram of the jig. No specimen shall show a crack exceeding ⅛ inch in any direction upon completion of the test.

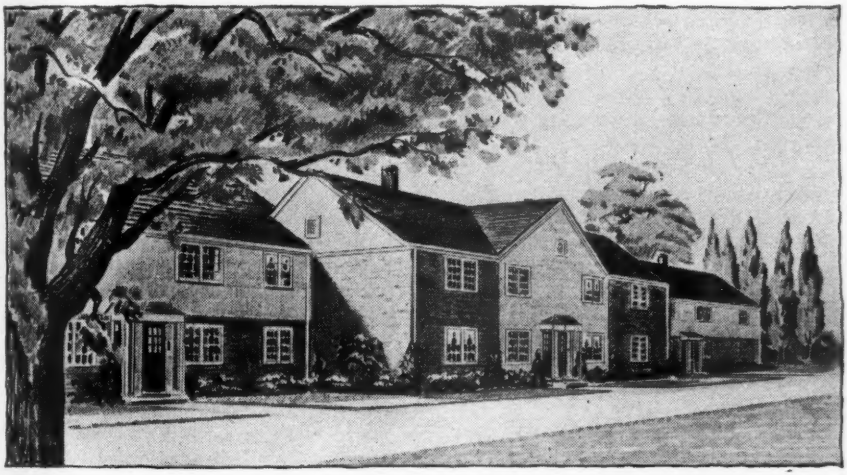
Should this specimen fail to meet the requirements, two additional specimens from the same cylinder shall be tested, and if either of these fails to meet the requirements, the entire lot represented shall be rejected.

(4) In addition to the guided bend test, a reduced section tension test shall be made transverse to the weld and meet the requirements of paragraph Q-109 of Section IX of the American Society of Mechanical Engineers Boiler Construction Code, 1943 Edition including Addenda to 1946 Edition. Should this specimen fail to meet the requirements, two additional specimens from the same cylinder shall be tested, and if either of these fails to meet the requirements, the entire lot represented shall be rejected.

(g) One finished longitudinal seam shall be selected at random from each lot of 100 or less successively produced and be radiographically examined throughout its length in accordance with subparagraph (h) of paragraph U-68 of the American Society of Mechanical Engineers Unfired Pressure Vessel Code. Should the radiographs fail to meet the requirements two additional seams of the same lot shall be examined, and if either of these fails to meet the requirements the entire lot shall be rejected.

(h) Marking required on each cylinder. By stamping plainly and permanently on shoulder, top head, or neck as follows:

Rochester Plan PROVIDES LOW-COST RENTAL HOUSING FOR VETERANS AND THEIR FAMILIES



152 Bryant Winter Air Conditioners supply ideal indoor weather, individually controlled

The Rochester Plan, one of the nation's best solutions to the war-created housing shortage, is now a glowing reality . . . only slightly over a year since its conception by the eight banks of Rochester, N. Y. Operated by bank-owned Rochester Civic Rental Project, Inc., a non-profit company, the Plan provides modern living for service veterans and their families at extremely modest rental. Each apartment has three spacious rooms, bath and kitchen complete with range, refrigerator and electric disposal unit. Service facilities include a laundry center with automatic washers, garages and play areas for children.

A distinctive feature of the project is individual apartment heating, supplied by Bryant Model VB-6 Winter Air Conditioners. A vertical forced air unit, the Bryant Model VB is made especially for installation in apartments, basementless homes or any home where space is at a premium. Bryant Heater Company, 17825 St. Clair Avenue, Cleveland 10, Ohio . . . *One of the Dresser Industries.*

bryant
GAS HEATING
LET THE PUP BE FURNACE MAN

(I) ICC-4B40-FLW.

(2) A serial number and an identifying symbol (letters); location of number to be just below the ICC mark; location of symbol to be just below the number. The symbol and numbers must be those of the purchaser, user, or maker. The symbol must be registered with the Bureau of Explosives; duplications unauthorized.

(3) Inspector's official mark near serial number, date of test, (such as 12-46 for December 1946), so placed that dates of subsequent test can be easily added.

Following the passing of the above amendments, the ICC published a notice that it proposed to further amend Specification 4B as follows:

Amend part of par. 22, Spec. 4B (Cylinders), order Dec. 18, 1941, to read as follows:

22. Additional type. Cylinders without longitudinal welded seam when made for service pressure at least 240 pounds to not over 500 pounds per square inch are authorized provided the cylinders are made of steel approved by the Bureau of Explosives as suitable for use in the fabrication of this additional type cylinder and the cylinders comply with this specification with exceptions and additional requirements as follows:

Amend subparagraph (a) (2) to read as follows:

(2) Wall thickness is acceptable, subject to the additional requirement specified in par. 22 (b) (1), as follows:

Inside diameter of cylinder (inches)	Minimum Thickness* (inch)
15 or less	.087
over 15 to 16	.092
over 16	.100

*Excluding galvanizing or other protective coating.

Amend subparagraph (b) (5) to read as follows:

(5) All markings must be applied on a plate of ferrous material attached to top end of the cylinder or permanent part thereof; sufficient space must be left on the plate to provide for stamping at least six retest dates; plate must not be attached to the side wall of the cylinders; the plate must be at least 1/16 inch thick and it must be attached by welding, or by brazing at a temperature of at least 1400°F. throughout all edges of plate; provided, that marks may be stamped into the metal of top heads having a thickness of not less than 0.087 inch or the valve boss or valve protecting sleeve or similar part permanently attached to the top end of the cylinder; provided further, that marks other than those prescribed in par. 19 may be stamped into the foot ring.

Stamping of letters, figures or other marks into the metal of the cylinder for any purpose whatever, except as above authorized, is expressly prohibited. The mark prescribed in par. 19 (a) must be as follows: ICC-4B***; stars to be replaced by the service pressure and followed by the letter X. (for example ICC-4B240X, etc.).

(Cancel) subparagraph (c)."

Bulk Plant Moved By Saline Butane

The bulk storage plant of the Saline Butane Co. has been moved to a point one mile east of Grand Saline, Texas, on Highway 80.

Additional storage capacity totaling an 8,000-gal. tank was purchased at the time the move was made and has been installed beside the original equipment.

FOR DISPENSING PLANTS, DOMESTIC AND TRUCK DELIVERY

Over ten long years of hard dispensing plant usage have proved this PARKHILL-WADE Safety Filling Hose Nozzle the easiest, fastest and safest way to fill L.P.G. Tanks.

Simply attach fitting "A" or "B" (below) to tank or cylinder filler valve. Then slip PARKHILL-WADE Hose Nozzle over plain end of fitting engaging pin "C" into nozzle slots "D." Give nozzle a quarter turn, pull locking lever up tight and start the pump.

The lever action opens a valve within the nozzle and simultaneously seals off the nozzle and fitting connection against leakage. Should the tank pressure be higher than pressure within the delivery hose or should hose become ruptured, an additional ball-check within the nozzle prevents back-flow. Fuel entrained between nozzle and tank filler valve is automatically bled off when disconnecting nozzle, thereby eliminating hazard of liquid burns.

SL

This patented PARKHILL-WADE Quick Filling Safety Hose Nozzle, strong and rugged in construction is built exclusively by SELWYN-LANDERS to S-L standards of quality.

P.O.L. fitting for domestic tanks and cylinders.

Write us for prices and delivery

BETTER FITTINGS IMPROVE YOUR PRODUCT

SELWYN-LANDERS
COMPANY
4709 East Washington Blvd., Los Angeles 22, Calif.
Designers and Manufacturers of L. P. G. Equipment

Building a Business with Vision and Work

By C. C. TURNER

New England Editor

Butane-Propane News

CHAPTER 31

LEST any think that the possibilities in the LP-Gas business, which I have attempted to portray in this series, are but figments of the imagination, I interrupt the sequence to tell you about one man who is doing great things. Heretofore, I have never mentioned the accomplishments of a Maingas dealer because of my affiliation with that company.

Maingas dealers have complained of this policy, feeling that they were not getting a fair break with their competitors in this matter of publicity. I tell the story of Don McKeon, not as the representative of any particular company or brand of gas, but because he has accomplished so much in the face of adversity that his story lends force to my contention that there is volume business waiting for any one of us who has the gumption to go after it.

Because we sent millions of fighting men to Europe and the islands of the Pacific we lose sight of a real war which was waged upon our own shores. Maine, with its hundreds of miles of coastline, secluded harbors, and sparse population, offered an inviting spot for enemy landings. There were some spies and saboteurs whose landings were reported in our papers, but for every one apprehended it is likely that several managed to slip through into America. That they did no appreciable damage to our war plants stands to the credit of the FBI.

Then again, there is reason to believe that Maine men settled many matters according to their own code of justice without ever bothering to notify the FBI. More than one enemy carcass, punctuated with bullet holes, was washed up on our shores!

There were American casualties as well, and Don McKeon was one of them. As a member of the Coast Guard he paid a price for democracy. A successful young business man in Kennebunk, proprietor of a "Western Auto" store, dealer in appliances, prime mover in civic affairs, he left home one evening in perfect health. When he was returned to his family he was almost totally blind, had an arm missing, and did not have much with which to face the future excepting an active mind, and a will of iron.

This all happened before Don be-

McKeon's modern bottled gas truck.

came a Maingas dealer last February, and as I look back upon that occasion I can remember thinking, "How can that man with his handicaps become a successful gas dealer?" I did not then know of his determination, that his wife, Ruth, was a woman of uncommon business ability, and that his employes were capable and loyal. The McKeon organization is an efficient group, functions smoothly, and is inspired by the spirit of the man who has refused to be "downed" by handicaps which would make most of us avid recipients of sympathy.

Starting from scratch in the gas business, and in a community which is predominantly a summer recreational haven, Don McKeon has put on more than 100 gas customers in just a year. He sold 40,000 pounds of propane gas in that year, and bids to more than double this in 1947. When others were howling about there not being any appliances to sell, Don McKeon bought up second-hand city gas ranges, converted them to bottled gas ranges, and sold them at a profit. He solicited gas installations from other merchandisers of appliances who did not have a line of bottled gas. He even purchased gas appliances at list prices, and then sold them at no profit in order to build up a gas load. He went after the summer hotel business.

Space heating, of which too many LP-Gas dealers are afraid, has been a particularly fertile field for him. The furnace in his own Western Auto store has been converted to propane operation, and he tells me that it has not been any more costly to operate than when it was coal-fired, when the cost of ash removal, furnace repairs, dirt, and saving of space are considered. He

WATCH FOR THE GIRL WITH THE *wink*

YOU'LL SEE HER in Grand Gas Range advertisements appearing month after month throughout the year in four leading magazines of national circulation.

Her features—particularly the one with the wink—will make her stand out from the ordinary run of pretty-girl advertising art just like the exclusive features of Grand Gas Ranges—two-oven capacity, Charcol-ator broiler, Safe-Tee-Kee burners, etc., make them stand out from the ordinary run of ranges.

Grand **GAS RANGES**

GRAND HOME APPLIANCE COMPANY
CLEVELAND 4, OHIO

CP TRADE MARK C.G.M.A.

GRAND heartily supports the CP ("Certified Performance") range program.

stresses service, and in Peter D'Ascanio he has a service man of whom he can well be proud. Norman Littlefield is an ace salesman. Ruth McKeon watches the purse strings. It is a combination of talents which would be hard to beat.

Ground is now being broken for a separate gas and appliance store next to the Western Auto store. It is Don's plan to stock this fully with gas appliances. In order to create store traffic there will be an opening from the Western Auto store directly into it.

Truck Hauls 45 Cylinders

Don has also invested in a new International truck with a body built particularly for handling propane cylinders. This truck can haul

The new gas appliance store is being built to the left of Don McKeon's Western Auto store.

45 cylinders. The body is of all steel construction, with diamond floor plates. Binding hooks are welded to the top side rails at intervals of approximately 15 inches, and two short chains can be united in the center with a specially designed "cinch" fastener not unlike a similar device used by lumber operators to bind loads of timber onto a truck. These chains are rubber covered except at the ends, and whether there is but one or 45 cylinders on the truck, the load is securely bound so that cylinders are not chafing against each other. There are 15 trouble or parking lights upon the body.

Note in the photograph the panelled doors cut into the body wall at both the front and rear on each side. Inside these compartments are partitioned bins for parts and tools. Just the body on this truck cost approximately $900, but in it Mr. McKeon owns the last thing in a gas service truck, and the advertising value of the unit as it traverses the highways is greater than can be computed in dollars and cents.

•

One might be inclined to aver that the reason for Don McKeon's success is that he has had the capital with which to go after the LP-Gas business in earnest, but to me the story of Don's growth stems from something more important and essential than this. It has been the man's vision, and the establishment of a goal.

Too many operators think only of the profit that comes from each pound of gas sold, and will not make any effort to sell it unless it is in the higher price brackets. Others go into the gas business as a means of helping to sell appliances and look upon it as a necessary evil. Still others charge up their cylinder investment to each job as it comes along, and show each customer as a liability on their books. Don's philosophy is entirely differ-

ent. Let me pass it on to you in his own words.

"If I were going into distributing gasoline or oil I would, first of all, have to invest in a bulk plant. This would cost me 10 to 15 thousand dollars before I had a customer. Then I would have to put four or five thousand dollars more into a truck, and keep employes on the payroll at a loss until I had developed a paying volume two to five years hence. Because I paid for these things in a lump before I ever did a dollar's worth of business I would naturally charge it all up to investment.

"Why don't gas dealers do this same thing on their cylinder and equipment investment? They don't. They charge each cylinder deposit and each regulator up to a particular job and start it off in the 'red.' This is wrong, for these items should be looked upon as plant investment.

"I don't know of any other business in the world where you can make your plant investment gradually and in small amounts while you are expanding. Certainly other fuel distributors, such as the coal or oil man, can't do it, and as for depreciation, my cylinders and regulators will still be doing me service when any other plant would be obsolete and a liability.

Equipment Lasts for Years

"Who knows what the life of a cylinder or a regulator is, anyway? Some of my competitors have cylinders which are 17 or more years old and they are still going strong with no sign of failure, and I know where there are regulators which have been in service the same length of time without ever having to be repaired or replaced."

How about it? To me it seems that in this reasoning Don McKeon has "something on the ball." Those who persist in looking upon the gas business as a side line to appliances would do better to either revise their way of thinking, or leave the gas business to the hundreds of Don McKeons who see in it a profitable investment and are making history by contributing to its phenomenal growth!

Michigan Dealers Form LP-Gas Association

A meeting was held Feb. 10 at Grand Rapids, Mich., for the purpose of forming the Michigan Liquefied Petroleum Gas Association and the organization was put into effect as a result of unanimous approval of a majority of the representatives present of the LP-Gas industry in Michigan.

Officers elected are: R. H. Stinger, Michigan Bottled Gas Co., president; E. C. St. Cyr, Cyr Bottled Gas Co, vice president, and Lou Marshall, Petosky Gas Co., secretary-treasurer.

An executive committee was provided for in the tentative constitution that would guide the association's operations and, at the same time, membership was restricted to LP-Gas marketers in the state.

Plans were made for the selection of a committee as official representatives of the industry to the fire marshal's office. The members of the fire marshal's office present pledged wholehearted cooperation with the association committee.

MORE BS & B SALES AMMUNITION!

Increase YOUR Profit Opportunities . . .

Poultry Raisers Need PROPANE!

● Now is the time to build future profits. Show poultry raisers Propane can help them to increased production, greater home comfort with the latest Black, Sivalls & Bryson sales booster . . . the Poultry Equipment Folder. Yes sir . . . it's crammed with useful information and a powerful sales message about B S & B Domestic Propane Systems. It hits home with facts at the time your prospects are most receptive to newer, better ways to raise poultry . . . during the Spring hatching season.

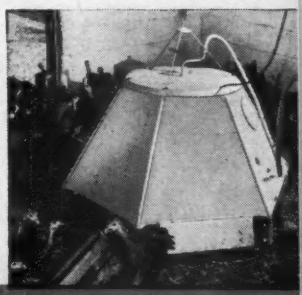
All B S & B dealers receive a supply of these folders . . . as part of the great B S & B merchandising plan for 1947. If you are not a B S&B dealer, write in now and find out about other sales helps, complete merchandising plans and how by becoming a B S & B dealer you can make 1947 your greatest profit year. Write to Propane Gas Equipment Division, Executive Offices, Black, Sivalls & Bryson, Power and Light Building, Kansas City 6, Missouri. Do it now!

Free!

The B S & B Propane Dealer Manual . . . new valuable sales aid. A "Dealer's Bible" . . . write today for your copy.

Here's one big improvement in raising poults . . . a Propane-fired brooder operated by a B S & B Propane System. Safe, efficient, clean, economical . . . operates automatically.

B S & B's new folder shows you how to boost sales with these modern devices.



15

EFFICIENCY

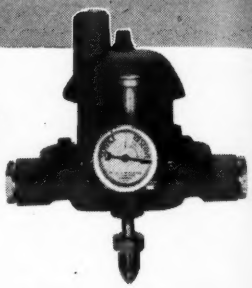
BLACK, SIVALLS & BRYSON, INC.

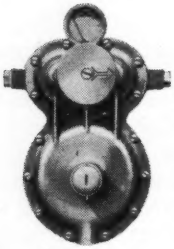
RELIABILITY

KANSAS CITY OKLAHOMA CITY

RELIANCE gives you the REGULATOR designed for your needs !

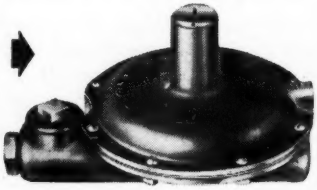
"MR" is a single-stage multiple regulator which reduces high pressures to more efficient use by a secondary regulator. It will draw automatically on *both* cylinders when peak load is required, reverting to the service cylinder alone as the load decreases. This regulator is especially recommended for pilot light equipment and continuous burner service.

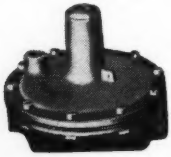




"DBP" is a two-stage regulator designed for duplex service. In the first regulation stage varying service cylinder pressures are reduced to 15 pounds; in the second stage this 15 pounds is reduced to a uniform 11 inches water column pressure at the outlet. When the service cylinder is empty, the reserve cylinder automatically cuts in, the indicator hand moving from service to reserve to indicate the cylinder in operation.

"BKR" is designed as a primary or secondary unit equipped with internal relief valve which can be set to relieve at pressures from 25 to 35 inches water column. Normal outlet pressure of 11" water column is maintained. The valve mechanism is easily accessible through the inspection plug.





"BP" is designed for smaller capacities than the "BKR." It is a convenient and economical regulator for the low-volume consumer, and provides precision control of outlet pressures.

Write for Bulletin 40.

AMERICAN METER COMPANY

RELIANCE REGULATORS

RELIANCE REGULATOR CORPORATION
1000 MERIDIAN AVENUE, ALHAMBRA, CALIFORNIA

NEW PRODUCTS

Final stages of assembly and testing of LP-Gas Regulators by Climax Industries.

Regulator

Climax Industries, Inc., McAlear Manufacturing Division, Tulsa, Okla.

Models: 2020 and 2015.

Description: These regulators are designed to minimize the possibility of freezing up in service and that end is accomplished by designing the inner valve in a passage area which allows an unobstructed area to surround it, according to Albert J. Hanssen, the company's chief engineer.

The inner valve is guided from behind in such a manner as to keep this guiding area out of the direct flow of the gas so that any moisture will have a tendency to blow through the regulator rather than to collect on the guiding surfaces, thus reducing freezing possibilities. The complete regulator is designed to have the minimum amount of obstruction to the flow of gas through it and this also makes it possible to obtain increased capacity.

All of the regulators manufactured are tested by use of a semi-automatic testing apparatus which insures consistency of the adjustment as well as the performance of each regulator.

LP-Gas Filter

Poweresearch Corp., 2929 Gage Ave., Huntington Park, Calif.

Description: The new butane-propane filter will, according to the manufacturer, answer the urgent need of the LP-Gas industry for protection of equipment against foreign matter and gums.

The micronic type filter element was developed during the war and has been exhaustively tested and approved for military use. It will filter down to two

microns, less than 1 ten-thousandth of an inch. In addition, it is waterproof, absolutely impervious to all types of petroleum ethers, and will take up to a 10% solution of sulphuric acid without being affected.

The 2-piece, die-cast body is built to withstand the rough usage of commercial service. It is designed to allow quick replacement of the inexpensive filter element in the field without disturbing or disconnecting any fuel lines. Service tests have shown that its filtering area and cubic volume are large enough to pass more than 30,000 gallons of fuel before filter element replacement is necessary.

Specifications include a filtering area of 600 sq. in., liquid flow capacity of 60 gal. per hour, gas flow capacity of 2000 cu. ft. per hour, working pressure of 300 psi, volume capacity of 80 cubic inches, and an overall size of 5 in. diameter by 8 in. high.

Each filter assembly is hydrostatically tested to a pressure of 500 psi before it leaves the factory and the aircraft-developed, leakproof, pressure seal ring assures trouble-free operation in the field.

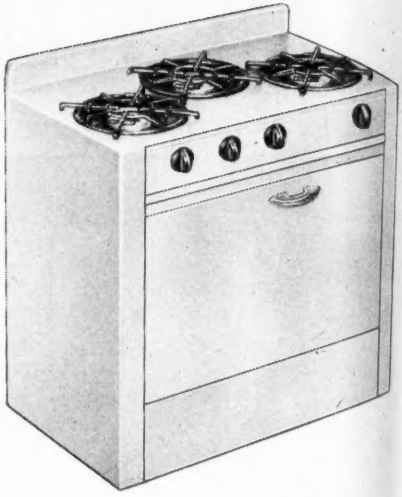
Trailer Coach Range

Mutual Liquid Gas Equipment Co., 3600 Imperial Highway, Inglewood, Calif.

Model: Mutual's 2 M-R.

Application: Designed for trailers, boats, cabins, small apartments, motels. Compact, streamlined design makes it possible to fit in smallest kitchens without projecting into room. Can be mounted to fit any height individual.

Oven is large enough for family baking. Sturdy cold-roll steel with spot-weld and bolt construction guarantees heavy duty performance and



lasting qualities. All parts easily accessible.

AGA approved valves used throughout. Equipped for butane, propane or natural gas.

Height of stove is 24 in.; width, 26 in.; depth, 16 in. Designed to be mounted at height desired on platform or other base. This feature makes stove adaptable to any location or individual.

Description: This stove features new ideas that make it ideal for many kitchens, where stoves of usual design are bulky and awkward. Its unique 3-burner top, with staggered burners, makes it possible to use any burner without reaching over flames; makes possible compact design, with big-stove cooking features.

Large stove size aeration pans and spiders are used. They are removable for easy cleaning. Gray-iron spider is porcelanized for high heat resistance and non-warping.

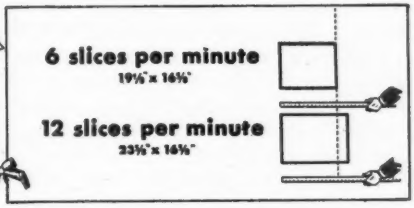
Range includes large vented oven which is insulated with 1 inch of glass wool batting.

When your prospects want

MAXIMUM capacity in MINIMUM space

Savory

STAINLESS STEEL TOASTERS
LP Gas



Savory Toasters give fast toast production in less space—another powerful sales argument to sell schools, hospitals, restaurants, lunch wagons and institutions on LP gas for toasting and to open the door to sales of additional LP gas heavy-duty cooking equipment. Savory is the only completely satisfactory solution to quantity toasting problems, because Savory is the only toaster with the conveyor system. This conveyer moves continuously at a set speed, keeping the loading end clear, carrying the bread through the three heating zones and unloading the finished toast in the serving tray—a completely automatic operation. A Savory Toaster is like an extra helper in the kitchen.

Savory is cooperating with LP gas dealers who are developing the profitable commercial cooking load. *Write for details.*

SAVORY TOASTERS are available in bread, bun and sandwich models

Savory

EQUIPMENT, INCORPORATED

137 Pacific Street, Newark 5, N. J.

Sold by leading LP Gas dealers everywhere

microns, less than 1 ten-thousandth of an inch. In addition, it is waterproof, absolutely impervious to all types of petroleum ethers, and will take up to a 10% solution of sulphuric acid without being affected.

The 2-piece, die-cast body is built to withstand the rough usage of commercial service. It is designed to allow quick replacement of the inexpensive filter element in the field without disturbing or disconnecting any fuel lines. Service tests have shown that its filtering area and cubic volume are large enough to pass more than 30,000 gallons of fuel before filter element replacement is necessary.

Specifications include a filtering area of 600 sq. in., liquid flow capacity of 60 gal. per hour, gas flow capacity of 2000 cu. ft. per hour, working pressure of 300 psi, volume capacity of 80 cubic inches, and an overall size of 5 in. diameter by 8 in. high.

Each filter assembly is hydrostatically tested to a pressure of 500 psi before it leaves the factory and the aircraft-developed, leakproof, pressure seal ring assures trouble-free operation in the field.

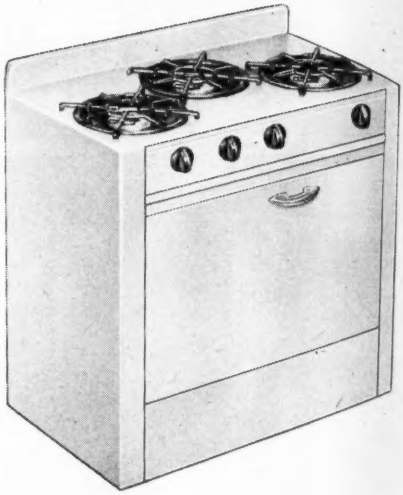
Trailer Coach Range

Mutual Liquid Gas Equipment Co., 3600 Imperial Highway, Inglewood, Calif.

Model: Mutual's 2 M-R.

Application: Designed for trailers, boats, cabins, small apartments, motels. Compact, streamlined design makes it possible to fit in smallest kitchens without projecting into room. Can be mounted to fit any height individual.

Oven is large enough for family baking. Sturdy cold-roll steel with spot-weld and bolt construction guarantees heavy duty performance and



lasting qualities. All parts easily accessible.

AGA approved valves used throughout. Equipped for butane, propane or natural gas.

Height of stove is 24 in.; width, 26 in.; depth, 16 in. Designed to be mounted at height desired on platform or other base. This feature makes stove adaptable to any location or individual.

Description: This stove features new ideas that make it ideal for many kitchens, where stoves of usual design are bulky and awkward. Its unique 3-burner top, with staggered burners, makes it possible to use any burner without reaching over flames; makes possible compact design, with big-stove cooking features.

Large stove size aeration pans and spiders are used. They are removable for easy cleaning. Gray-iron spider is porcelanized for high heat resistance and non-warping.

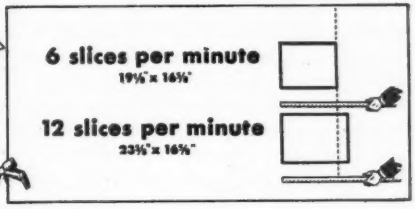
Range includes large vented oven which is insulated with 1 inch of glass wool batting.

When your prospects want

MAXIMUM capacity in MINIMUM space

Savory

STAINLESS STEEL TOASTERS
LP Gas



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137 Pacific Street, Newark 5, N. J.

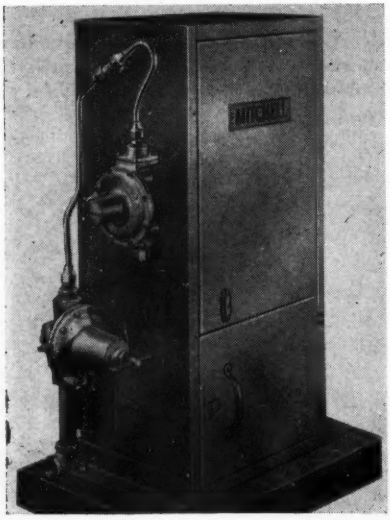
Sold by leading LP Gas dealers everywhere

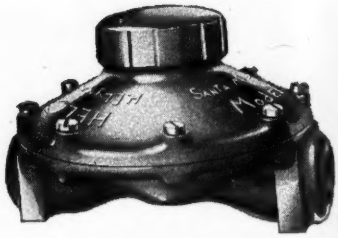
Vaporizer

John E. Mitchell Co., Dallas, Texas.

Description: An improved vaporizer for use in industrial LP-Gas systems, the new Mitchell is a unit by itself apart from the supply tank, and operates by using heat in a closed chamber to vaporize gas. It can be operated either with aboveground or belowground tanks. Since the vaporizer draws out chiefly liquid fuel, the tank does not lose pressure or frost up due to heavy withdrawals; also, the vaporizer does not draw off the propane first in a butane-propane mixture. Gas is dry and requires but one burner adjustment in a tankful, after which, according to company engineers, the flame remains bright blue and of uniform heat value, thereby minimizing sooty deposits and insuring heat output of high efficiency.

Application: Operation of the vaporizer depends on a new principle known as automatic selective control. This works to relieve unusually heavy demand upon the vaporizer by withdrawing tank gas as needed.





Low Pressure Regulator

H. E. Lynn Co., Inc., 2041 Colorado Ave., Santa Monica, Calif.

Model: HELCO Model 50.

Application: The regulator has an inlet pressure up to 250 psi and outlet pressure 11 in. water column, and is suitable for use with bottled gas installations of all types.

Description: Unit is cast from Zemac 5, a zinc alloy with high tensile strength. Built of standard design, safety specifications have been followed according to the NBFU Pamphlet No. 58.

The regulator has an unusually high capacity for its physical dimensions and, according to the manufacturer, within 2 in. variation in outlet pressure this unit will flow approximately 45 cu. ft. of gas per hour at an inlet pressure of 10 psi; approximately 75 cu. ft. per hour at inlet pressure of 20 psi, and at 100 psi inlet pressure the flow of gas is approximately 240 cu. ft. per hour. Therefore, the regulator capacity keeps pace with the rate at which the average 100 pound cylinder will deliver.

Model 50 has been designed for ease of servicing in the field, the parts and assembly are of the utmost simplicity, and the unit can be completely dismantled and reassembled with a screwdriver.

POWER

A 10-Million Mile Experiment— And a Challenge

By H. W. WICKSTROM

Consulting Engineer, Technical Editor BUTANE-PROPANE News

IT will be endeavored in this article to present to the hundreds of new operators in the butane automotive field that LP-Gas is right for commercial operation but, regardless of the merits and advantages obtained, you cannot expand without a fight and knowing the answers.

A few years ago, 1934 to be exact, the writer checked with Dave Day and George Holzapfel on the results they obtained on the first operation of a bus on LP-Gas and though the results were excellent, considering all the facts unknown at the time, no great commercial operation followed their hard efforts.

A few trucks were running and showing performance that was unusual. The urban bus field appeared to be a natural for the expansion of the automotive use of LP-Gas.

Through friendship with the owner, arrangements were made for a trial installation on a GMC type Z bus operated by the Lang Motor Co. at Long Beach, Calif. Tanks were built and one night between 12 A.M. and 6 A.M., the bus was changed over from gasoline to butane and started its run on schedule the next morning. No one except a few mechanics on the night shift and Charles Sansome, the mechanical superintendent, knew there was any change in the equipment.

Bus No. 301 was at that time the prize of the fleet on a 300 mile-a-day run and had run up close to 400,000 miles before the change-over. The regular driver took it out on his run and as usual cut a couple of transfer back cards to put under his hand choke pull-button to give the old bus the necessary kick.

He made six round trip runs before he was told the choke had been disconnected and that he was the picked operator to try out a new fuel and to keep his mouth closed about it.

The bus was taken up into the Signal Hill oil fields every night

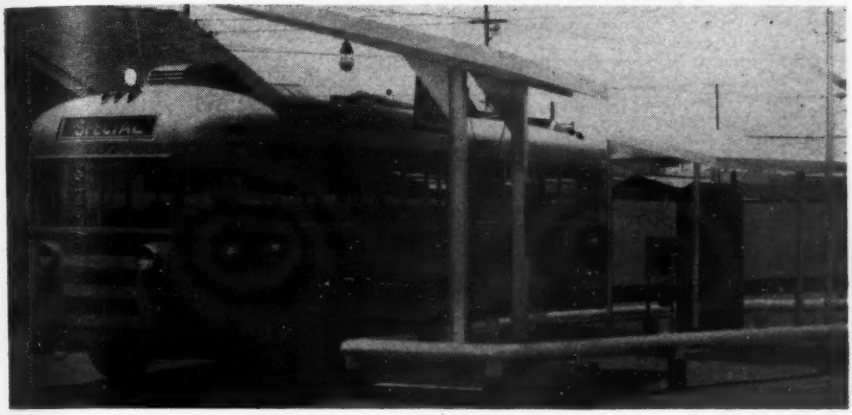


Fig. 1. One of the butane-burning buses of Long Beach, Calif., city system that made excellent record.

and filled with butane by hand from a skid tank.

After 90,000 miles had been recorded on the speedometer it was decided to tear the engine down and check it over.

The result was that it was reassembled and put back on the road without even a valve grind. Cylinder wear was less than .001.

It was decided then that the fuel had possibilities and the unit was dismantled until such time as facilities could be installed for servicing 30 units of the fleet.

Just before the unit was taken off in 1935, Barney Childs (deceased), general manager of the Spokane United Railways, visited Long Beach and after inspecting the records established by No. 301 decided to make a trial installation on 10 units in Spokane. Before the installation of the 10 units was completed, the Spokane United decided to change over their complete fleet of 60 buses. Eventually they had 120 units operating successfully and economically on LP-Gas.

But back to Long Beach. A fueling installation was made (Fig. 1) and 9 GMC Z, 4 T30, 5 Y728 and 2 T331 were changed over to LP-Gas.

The changes made were to install LP-Gas tanks, new manifolds, raising of compression ratio and installation of vaporizers and LP-Gas carburetors.

Mileage records were of great interest at the time. A tabulation of the results is shown in Table 1.

These units were good for 60,000 to 75,000 miles on gasoline between overhauls which included valve grinds, rebore and rings, plus the usual connecting rod and bottom engine repairs.

The same buses on butane in the same service chalked up 125,000 to 150,000 miles between overhauls and then could be taken care of with a ring job and top engine overhaul.

TABLE 1. MILEAGE RECORDS

Type	Bus. No.	Mileage LP-Gas *Oct.*	Mileage LP-Gas *Sept.*	Mileage Gasoline *May*
Type Z	300-309	3.4	3.5	3.6
Type T30	342-345	3.4	3.4	3.8
Type Y728	346-350	3.9	3.9	4.2
Type T731	360-361	4.3	4.1	4.4

Crank case dilution and sludging were eliminated as well as fuel pump and gasoline carburetion maintenance. The first two years of service in this fleet required less than $100 of carburetion parts.

Day in and day out the miles of operation built up and finally the T and Y models became obsolete on account of body style and size and were dispensed with. However, the type Z's kept rolling along.

New units were added — 18 TG3602 GMC 38-passenger buses operating on LP-Gas, and 11 TG4006 40-passenger operating on gasoline, and TD45005 and 4506 fueled with diesel.

Of the 18 TG3602 models, seven units operated 400,000 miles each before it was necessary to remove the engines from the buses for overhaul. The gasoline jobs were in for overhaul regularly at less than 100,000 miles.

After 5 years of operation a spot check was made of one month's operation with the following result in May, 1946:

11 TG4006—gasoline—2.9 mi/gal.
18 TG3602—LP-Gas—2.9 mi/gal.

These buses were operated during the war years with the maximum of load and minimum of maintenance which results in the poor fuel economy of both the gasoline and LP-Gas buses, but they are comparable.

During this same month the TD4505 diesels averaged 4.3 miles per gallon but were newer buses and were on the longer runs which use less fuel.

The next phase of the experiment reaches out to the Ford transit bus. During the war the traffic grew so fast that 38 Fords were added to the system.

Due to the standing loads carried, it was necessary to increase the tire size which increased the pulling loads on the motors.

Twelve units were changed over to butane and the result of trying to make a boy do a man's job soon became evident. By increasing the compression ratio and equipping the units with LP-Gas, additional power was made available in the engine unit and the lack of knocking and chattering allowed the drivers to lug the engines unmercifully, resulting in head gasket failures and, on the surface, evident unsatisfactory service.

Test runs on these units showed

a maximum of 5″ pressure on the manifold during complete round trip runs excepting when decelerating and idling. This section of the fleet was operated on a contract rental and maintenance basis but the fuel and oil were paid by the bus operator. For the type of service, the author concludes that the units were under-powered by at least 25% but though butane was not considered a success on this operation, due to lack of cooperation from the contractor, the following tabulation is offered in refutation of any criticism that may be offered on the feasibility of operating Ford transit buses on butane.

The figures in Table 2 cover the period of operation January through May, 1946.

After 1,000,000 miles each the GMC Z's were disposed of. All of these units still had the original engines in them. The total butane mileage on this company's operation is more than 10,000,000 miles and stretches over a period of more than 10 years.

In all this time there were no passengers or drivers injured due to fires, although a number of these units were in crashes and fires. The experience of this company's

TABLE 2. PERFORMANCE RECORD

	Total	Butane	Gasoline
Miles Operated	794,000	251,000	543,000
Buses Operated	38	12	26
Miles per Bus per Month	20,900	20,900	20,900
Engine Changes	31	10	21
Miles per Engine Change	25,600	25,062	25,800
Accumulated Mileage Per Engines In Service, May 28	12,900	12,700	13,000
Road Calls	842	289	553
Road Calls per Bus per Month	4.5	4.8	4.3
Road Calls per Bus per Month Due to Engine Trouble	1.8	1.9	1.7
Gallons of Fuel Consumed	165,147	57,098	108,049
Cost of Fuel Consumed	20,796	5,139	15,607
Miles per Gallon	4.8	4.4	5.0
Lub. Oil Miles Gallon	435	358	485
Fuel Cost Per Mile	2.74c	2.05c	2.9c
Lub. Oil Cost Per Mile	.115c	.140c	.103c
Engine Exchange (Est. $100.00 cost)	.40c	.40c	.40c
Maintenance Labor (Inc. Supt. & Storekeeper)	1.60c	1.60c	1.60c
Maintenance Parts (Estimated)	.80c	.80c	.80c
Cost Per Mile		5.19	5.803

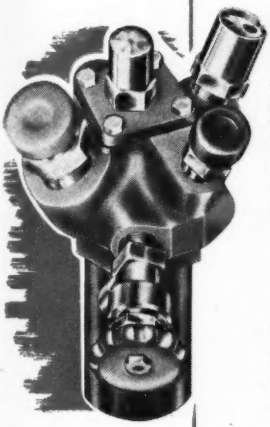
Designed for ECONOMICAL, PRACTICAL and SIMPLE installation. *Installed on any tank position.*

climax

Available NOW for Immediate Delivery

CONTINENTAL CONTROL HEAD ASSEMBLY

reduces costs and hazards...meets all safety requirements

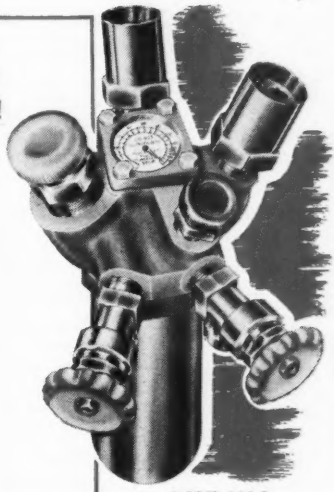


MODEL 201-A
for vapor or dry system

SIMPLIFIED INSTALLATIONS WITH ONLY 1 CONNECTION!

The complete Control is factory assembled and tested, thus requiring only one tank connection to obtain these operating functions.

- QUICK FILL VALVE WITH SLUG CHECK
- VAPOR RETURN VALVE WITH SLUG CHECK
- VAPOR LINE SHUT OFF VALVE WITH OR WITHOUT SLUG CHECK
- LIQUID WITHDRAWAL VALVE WITH OR WITHOUT SLUG CHECK
- MAGNETIC FLOAT GAUGE
- PRESSURE GAUGE (OPTIONAL)
- SAFETY RELIEF VALVE
- PIGTAIL
- EXPANSION COIL
- PRESSURE REDUCING REGULATOR



MODEL 201-B
for vapor and liquid systems

MODEL 201-A. Will accommodate 1¼" Filler Valve, ¾" Vapor Return, Relief Valve, Vapor Line Valve, Gauge Opening provides for the use of either float or slip-tube type liquid level gauges.

MODEL 201-B. Will accommodate 1¼" Filler Valve, ¾" Vapor Return, 2 Relief Valves, Vapor Line Valve, Liquid Line Valve, Gauge Opening provides for the use of either float or slip-tube type liquid level gauges.

MODEL 201-C. Special (Fitted to meet special requirements). Will accommodate 1¼" and 1½" Filler Valve, ¾" Vapor Return Valve, 3 Relief Valves, having a total relief area not exceeding 1.5 sq. inches relief area, gauge opening for use of either float or slip-tube type gauge, either one or two line valves, opening for pressure gauge (where required) and regulator.

THE CLIMAX CONTINENTAL Control Head Assembly is recommended for above ground and under ground systems.

Models 201-A and 201-B permit the filling, vapor recovery and liquid withdrawal through a single 2" or 2½" NPT riser.

The casting is a special heat treated aluminum alloy designed to resist the impurities in butane and propane. After machining, it is alumilited to prevent corrosion. This positive protective coating is the same as used by U.S. Navy during the war to protect all aluminum aircraft parts and fillings against corrosion. All valves are located for easy accessibility. An integral case baffle definitely prevents any liquid from getting into the house line.

The assembly is adaptable to a standard 2½" A.N.P. thread tank riser, size 2" A.N.P. thread may be had on application.

Available with fittings and may be had in various combinations with a selection of relief valves that makes it adaptable to all requirements up to 1500 gallons of propane. Climax Continental Control Head Assembly is designed with flexibility to adapt it to either a batch or flash system or both.

The Climax Continental Control Head Assembly, a simplified, compact, yet precision built unit, assures a safe system.

CLIMAX INDUSTRIES INC.

CLIMAX INDUSTRIES, INC.
L. P. G. DIVISION
15 North Cincinnati Avenue
TULSA, OKLAHOMA

operations has indicated a safety factor higher for the butane buses than gasoline or diesel.

It is difficult to estimate the exact savings that LP-Gas has made this company as the maintenance records are not complete but a conservative figure can be put forward with little chance of contradiction of at least $150,000 during the period of operation after amortizing the cost of equipment for filling and changeovers.

In conclusion, it is very interesting to note that both the Long Beach property described in detail herein and the Spokane property referred to were recently taken over by Eastern operators who know little or nothing about LP-Gas operation and with preconceived ideas of operating costs based on standardization of equipment and personnel training, have abandoned the use of LP-Gas for diesel and gasoline.

LP-Gas will give satisfactory results for the operation of urban bus fleets but it behooves the butane operator to stay clear of the larger properties that may be included into the national city bus monopoly, as little consideration will be given to the time and effort expended. The present field for LP-Gas in bus operation is with the smaller operators who are by necessity required to watch their costs and who must offer good transportation at competitive rates.

C. L. Parkhill, Jr., Will Head LP-Gas Equipment Division

The immediate reestablishment of the L.P.G. Equipment Division of Parkhill-Wade has been announced by C. L. Parkhill, president of the organization. Headquarters for the new division will be the main office of the company located in Los Angeles, Calif.

C. L. PARKHILL, JR.

Heading up the new division will be C. L. Parkhill, Jr., who recently joined the firm. The L.P.G. Division will be equipped to design, fabricate and erect butane and propane bulk plants, tank car and truck loading and unloading facilities, bottle filling scales and housing, retail truck dispensers and pump requirements.

One of the most important activities of the new department will be the presentation to the industry of an entirely new and unique service whereby complete bulk plants will be sold as "packaged units." Under this plan as many as 31 pre-engineered and pre-fabricated bulk plants will be available to dealers and distributors. Delivery of the units will be made within a few weeks after order is taken. These may be assembled quickly and at low cost.

Parkhill-Wade has been for many years associated with the design and construction of natural gasoline plants, refinery equipment, compressor stations and other types of oil and gas company plants. The company has also been instrumental in the design of many butane and propane fractionators used by the oil companies and with special types of storage and loading racks at points of production. Its engineering staff is available for special types of engineering problems in connection with either production or distribution.

THE TRADE

R. S. (Bob) Agee has announced his resignation as vice president and director of Roberts & Mander Corp., of Hatboro, Pa., in order to establish his own manufacturers sales agency and wholesale marketing business.

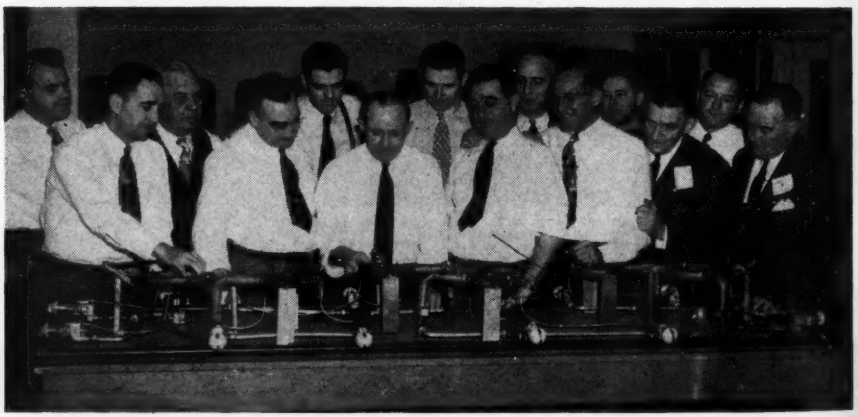
R. S. AGEE

Temporary headquarters will be located at 237 North Bent Road, Wyncote, Philadelphia. Plans call for concentrated coverage of utility and retail outlets in the adjacent Mid-Atlantic area. His agency representation will be restricted to a closely related line of high quality household appliances and much promotional emphasis will be placed on effective customer service and sales training.

Mr. Agee is widely known in appliance trade circles for his national launching of the CP-Gas range program while serving as sales promotion manager of the Gas Appliance Manufacturers Association in New York City.

The first postwar sales meeting of the **Geo. D. Roper Corp.**, Rockford, Ill., was held Feb. 17-19 to introduce the firm's new range model called the "Town and Country."

One day and a half were devoted to training sessions which covered sales training, sales control and service training, the last named being conducted by "Walt" Zwiger, as shown in the accompanying photograph.



Practical work in service training session conducted by "Walt" Zwiger, service manager.

In our advertising last month, we offered a solution to the problem of relieving winter shortage and increasing the sale of summer surplus LP-Gas. It is increased consumer storage capacity. If you have not already written Warren for your educational advertising kit, do so today. This kit, containing advertising, merchandising and promotion material, has been prepared by Warren as a public service. It is free to all distributors and dealers of Liquefied Petroleum Gas, whether customers of Warren or not. Send for yours today.

"1922-Silver Anniversary Year-1947"

WARREN PETROLEUM CORPORATION
TULSA, OKLAHOMA
Detroit Mobile Houston

GEO. P. HOUGH

The A. O. Smith Corp. announces that George P. Hough has been appointed executive administrator of the company's Chicago district, taking the place of Don T. Allen, who resigned recently.

Mr. Hough has been with the company since 1939. He entered the Chicago office in that year to direct the sale of pressure vessels which the company manufactures for the oil refining industry and the paper and chemical industries.

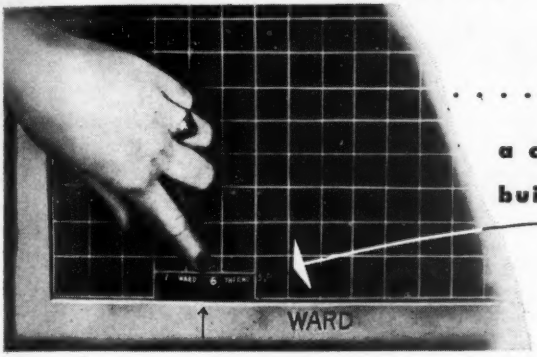
In 1944 Mr. Hough was appointed assistant administrator in direct charge of several sales activities. Today, with six product sales managers and a force of 35, he will direct all sales for the company's products in the 10 Middle western states.

Appointment of Kenneth L. Walker as vice president in charge of production has just been announced by Arthur L. Blakeslee, president of the **Kalamazoo Stove & Furnace Co.**

Since 1940 he has been head of his own company in Detroit, known as Walker & Associates, consulting engineers. As head of that concern, he directed plant layout, material processing, cost systems, wage and incentive systems, production control, job evaluation, job methods, time studies, and design styling for companies in practically every line of manufacture all over the country.

Walter G. Swaney was elected president of **Kerotest Manufacturing Co.**, Pittsburgh, Pa., and Stanley J. Roush became executive vice president at a

WARD'S NEW, IMPROVED BILT-IN THERMO-CONTROL AND AUTOMATIC PILOT



a complete built-in assembly

This new Control gives dealers another new Ward "sales feature" to add to all the other well-known Ward advantages.

The New Ward Bilt-in Thermo-Control is a completely self-contained and self-operating control system. No adjustments, connections or alterations are required other than simply connecting gas and vent—IT'S A COMPLETE PACKAGE UNIT!

Operation is simple, accurate and automatic. Merely set dial to desired temperature and Thermostat turns furnace off and on to preserve this *exact* temperature.

The Safety Pilot is an integral part of the assembly. In event of pilot failure—it cuts off the gas supply both to main burner and pilot *instantaneously.*

All TP-Models now being shipped have the new, improved Bilt-in Thermo-Control

WARD HEATER COMPANY
1800 West Washington Blvd., Los Angeles 7, California

A.G.A. reference manual insert sheets containing information and specifications on Ward furnaces are now available. Write us for copies.

special meeting of the board of directors on Jan. 23. Edward G. Mueller, former president, became chairman of the board. Other officers elected included: A. W. Anderson, works manager and director of purchases, and Ralph E. Lane, secretary-treasurer.

Mr. Swaney, Kerotest's new president, was one of the company's original members, having started with them in 1905.

W. F. ROCKWELL, JR.

At the annual meeting March 3 of **Rockwell Manufacturing Co.**, Pittsburgh, Pa., the board of directors elected W. F. Rockwell, Jr., president. Mr. Rockwell formerly served as vice president and general manager. Colonel Willard F. Rockwell, who has been both president and board chairman, will retain the office of chairman of the board. All other officers were re-elected.

L. S. Combe, head of Combe's Oil Equipment Co., Denver, has been named representative of the **Blackmer Pump Co.**, Grand Rapids, Mich., for the entire State of Colorado and part of Wyoming, it is announced by A. E. Jacobs, Blackmer vice president and sales manager.

Mr. Combe is widely known among the major and independent oil marketers in Colorado and Wyoming.

First showing to the general public of the **Stewart-Warner** "Sealed Heat" midget furnace was held at the retail display rooms of Kentucky Electric Appliance Co. in Louisville, Ky., in

February. This was the initial consumer showing in any market, and follows a series of "preview" showings to architects, builders, engineers and public utilities groups.

The new heater, burning natural, manufactured, mixed or bottle gas, is a self-contained unit installed in wall, ceiling or floor and with a heat output of 25,000 Btu's per hour.

A. F. BENSON

W. G. HAMILTON, Jr.

American Meter Co. announces the appointment of Arthur F. Benson to the position of production manager of the company and its subsidiaries, effective last Jan. 1. Mr. Benson, who has been with American Meter Co. since 1930, will also continue in his position as chief engineer. Mr. Benson has had wide experience in the development of displacement and orifice measurement of gases and liquids, as well as pressure and volume control.

Simultaneously, the company has announced the appointment of William G. Hamilton, Jr., as sales manager of the company and its subsidiaries, also effective Jan. 1. Mr. Hamilton joined American Meter Co. in 1927. He became assistant manager of the Philadelphia factory in 1941 and in September, 1945, he was appointed manager of the Philadelphia operations.

F. H. EATON H. J. RUSSELL

The American Car and Foundry Co. has appointed F. H. Eaton, heretofore sales engineer, and H. J. Russell, formerly sales agent, to the positions of assistant to vice president in charge of sales.

Mr. Eaton has been in the engineering and sales departments for the past 20 years and Mr. Russell has been in company sales work since 1939 except for time spent in the Navy during the war.

Both men will have their headquarters in New York City.

Announcement is also made by Charles J. Hardy, chairman of the board, that Arthur Tuckerman has been appointed director of public relations.

Rheem Manufacturing Co. is acquiring the nationally known line of Fraser gas furnaces and winter air conditioners, it is announced by R. S. Rheem, president.

As of Feb. 1 the Rheem Co. is purchasing from Fraser Furnace Co. its entire gas furnace and appliance business, including patents, designs, trade name, inventories and certain manufacturing equipment.

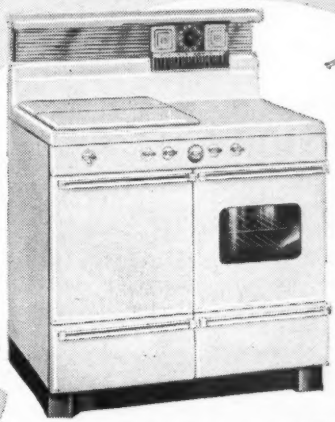
Rheem will manufacture the Fraser line at the Fraser Furnace plant at Stockton, Calif., under a lease arrangement. The Fraser line also will

FLORENCE SAYS!

CASH IN ON THE "SELL-ON-SIGHT" FEATURES OF FLORENCE *REGISTERED* GAS RANGES

"HI-LO BURNER CONTROL SAVES FUEL... SAVES MONEY"

"BROILS, ROASTS, BARBECUES... FOODS COOK BETTER, TASTE BETTER IN WASTE-HIGH BROILERCUE*"



"EASY TO CLEAN"

"2-OVEN CONVENIENCE SAVES TIME. LARGE SIZE OVEN PLUS BROILERCUE LETS ME BAKE, ROAST (OR BROIL) COMPLETE DINNER AT ONCE"

Show the Range...Talk About its Features...
And the Women Will Sell Themselves!

NO OTHER LP-GAS RANGE HAS ALL THESE 7 SELL-ON-SIGHT FEATURES

● Just let a woman see the completely new Florence design inside and out... Open that easy-to-use, waist-high Broilercue—talk about its exclusive "Focused Heat" feature that will give more delicious, healthful food with less shrinkage. Tell how the 2-oven operation lets her bake cakes, casseroles in the oven while she roasts or broils in the Broilercue. Remind her that this range is built, with 70 years of Florence skill and experience, to suit her needs. It's the range that has everything a woman wants in her kitchen. That's why they'll say "Give me 'Florence'" every time!

Completely New STREAMLINED "TURRET TOP" Design ● TWO-OVEN CONVENIENCE ● Exclusive New FOCUSED-HEAT BROILERCUE* ● Famous, Over-Size FLORENCE BAKING OVEN ● New Deluxe TOP LIGHT, Combination TELECHRON ELECTRIC CLOCK and TIME REMINDER—Handy UTILITY OUTLET ● New C-Quik Gas Cock HANDLES ● Convenient, EASY SERVICING FROM TOP

**Patents Applied for*

Florence
LP-GAS RANGES

FLORENCE STOVE COMPANY . . . General Sales Offices and Plant: Gardner, Mass. Western Sales Offices and Plant: Kankakee, Ill. Southern Plant: Lewisburg, Tenn. Other Sales Offices: One Park Avenue, N. Y.; 1459 Merchandise Mart, Chicago; 53 Alabama Street, S. W., Atlanta; 301 No. Market Street, Dallas.

be made at the Rheem heating equipment plant at Chicago.

Rheem Manufacturing Co. also announces purchase of a 56-acre industrial site just north of its present Richmond, Calif., plant.

W. C. DAVIS

George D. Wilkinson, chairman of the board of directors, has announced the election of Wendell C. Davis as vice president of **Cribben & Sexton Co.**, manufacturers of "Universal" gas ranges.

Mr. Davis joined the company as controller in 1942. He was elected treasurer in January, 1943, and became a member of the board of directors in 1946. Mr. Wilkinson further announced that Mr. Davis will continue his present duties as treasurer and controller of the company.

G. A. Burns, manager of the oil equipment division of **Butler Manufacturing Co.**, Kansas City, was elected a vice president after 33 years of company service.

Victor C. Norquist, consulting engineer, also was named to a vice presidency. Walter L. Smith, chief production manager, and Arvid A. Schoning, Galesburg division manager, were named to the board of directors.

Lynn H. Johnson has been appointed sales manager of the gas controls division of **Minneapolis-Honeywell Regulator Co.**, it is announced by A. H. Lockrae, vice president.

Joining the company in 1933 as a member of the production department,

Mr. Johnson was later transferred to the sales department in the company's central region where he served until joining the U. S. Army in 1942.

In his new assignment, Johnson will serve under C. D. Lyford, vice president in charge of the gas controls division.

L. R. Maxwell and James O. Maxwell of the **Maxwell Brothers Supply Co.**, distributors of heating and ventilation appliances and butane gas systems in Arkansas, Mississippi and Louisiana, have opened a branch warehouse in Little Rock, to be managed by James O. Maxwell.

Offices will be located in the Terminal Warehouse Co.'s building, and the warehouse will serve Arkansas, northern Mississippi and northern Louisiana.

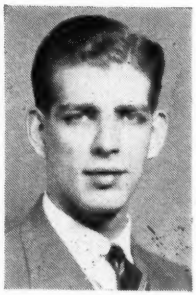
The Liquefied Petroleum Gas Insurance Underwriters, managed by Louis H. Collar, and whose address is 1913 Tauromee Ave., Kansas City, Kan., announces that it is now operating independently and will transact business covering liquefied petroleum gas dealers that may come through local agents. The Kansas City, Mo., address of the company is 1104 Insurance Exchange Bldg.

The Weatherhead Co. of Cleveland, Ohio, has just released an interesting booklet with an entirely new slant entitled "Prospecting for Perfection." It deals with the scientific research and engineering back of this company's operation, according to Gene P. Robers, sales promotion manager.

Emphasis is placed upon the importance of engineering, research and development engineering in the suc-

cess of this company, manufacturer of tube fittings and flexible hose assemblies as well as products for the liquefied petroleum gas industry.

Copies may be had upon request by writing to the sales promotion department of the company at 300 East 131st St., Cleveland 8.



F. N. ROBSON

F. N. (Neil) Robson has recently been promoted to the position of assistant sales manager by **Superior Valve & Fittings Co.** Mr. Robson became associated with Superior early in 1942 and was employed in the Pittsburgh sales office until February, 1944, at which time he was made assistant to the eastern district office manager, with headquarters in New York City.

He joined the U. S. Navy in early 1945 and received his honorable discharge in the spring of 1946.

Many school home economics departments are taking advantage of "Magic Chef's" new school range replacement program, according to S. E. Little, **American Stove Co.** vice president.

This new school program, Mr. Little explains, provides for new Magic Chef ranges at the dealer's regular cost plus actual cost of installation. The school then receives a new range without cost every two years thereafter, or as new models appear on the market. Such a program makes it possible for home economics teachers to have the latest in gas cooking equipment for a minimum in cost. The plan is applicable only for instructional

uses in home economics departments of universities, colleges, senior and junior high schools.

A school folder, prepared by American Stove Co., outlines the plan in detail and may be obtained by writing the advertisement department in Cleveland

As part of the American Stove Co.'s policy of intensive research in the design and development of cooking appliances of all types, William Lotter has been appointed assistant to A. H. Brodbeck, director of research, and will be in charge of research development of Magic Chef heavy duty cooking equipment.

Mr. Lotter was formerly chief engineed of the Cleveland division of the American Stove Co.

Appointment of E. B. Maire to regional sales manager of its Midwestern, Southern and Eastern branch office territories was recently announced by **General Controls Co.** His territory will include Boston, New York, Philadelphia, Pittsburgh, Detroit, Cleveland and Atlanta.

Mr. Maire's new position will call for the coordination of the factory branches with the factory.

Southern Tank Co., a subsidiary of **Southern Gas & Equipment Co.**, Tulsa, has been dissolved, and according to an announcement by Frank P. DeLarzelere, president of the latter company, became Southern Tank division of the parent company March 1.

Likewise, Southern Gas & Equipment Co., of Texas, with headquarters in Houston, is similarly dissolved and became the Texas division of the parent company at the same time.

In addition to the Tulsa general office, the Houston office and Sapulpa plant, the company has sales offices and fabrication facilities at Atlanta,

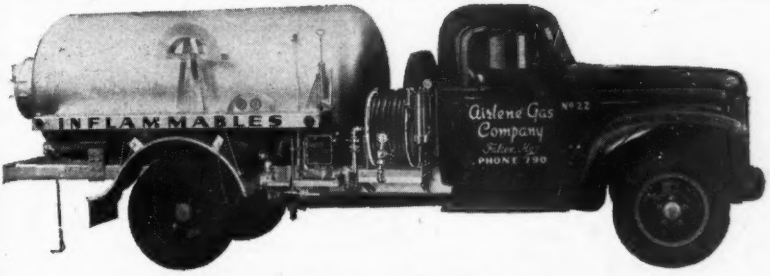
Basalt PROPANE TANKS

We at BASALT are proud of our Propane Tanks because our customers are so well pleased. They like the precise, clean manner in which our tanks are built, their attractive designs, and their high-quality fittings. BASALT Propane Tanks* meet the most severe demands for quality and serviceability... because they are made right! Be a satisfied customer, too! Always ask for BASALT TANKS! We can also take care of your needs for truck and general storage tanks... write for complete information.

**Built under API-ASME Code Standards*

Basalt STEEL PRODUCTS DIVISION

BASALT ROCK CO., INC., Dept. BP., NAPA, CALIFORNIA



ACE LP-GAS HOSE REELS

are gaining in popularity with LP-Gas dealers throughout the country because they save hose, speed deliveries, increase safety.

The hose reel shown above is a semi-hydraulic, fully automatic reel recently installed on an Airlene Gas Co. delivery truck — one of six now equipped with Ace Hose Reels.

These reels are capable of winding 50 to 75 ft. of one inch hose. Other types include: hand crank, air driven and spring operated models. Several sizes available.

ACE HOSE REEL CO.

5435 Alhambra Avenue
Los Angeles 32, California

Ga.; Jacksonville, Fla.; Birmingham, Ala.; Memphis, Tenn.; Ft. Worth, Tex.; Little Rock, Ark; Enid, Okla.; Springfield and Eldon, Mo.; Chicago, and Casper, Wyo.

Announcement is made by the **Peerless Pump Division of the Food Machinery Corp.** of the completion of its first postwar general sales conference, recently held at the Los Angeles factory.

F. E. Fairman, Jr., vice president of the Food Machinery Corp. and general manager of the Peerless Pump Division, presided at the conference opening.

B. A. Tucker, division sales manager conducted the week-long program.

The recent establishment of new plants has given the **Ruud Manufacturing Co.**, makers of gas water heaters, the largest production potential in the organization's 57-year-old history, it is announced by R. H. Lewis, Ruud president. Overall production capacity will be 400% greater than that of prewar years.

In addition to existing facilities in Kalamazoo, Mich., Toronto, Ont., and Pittsburgh, Pa., two new factories, one in Kalamazoo and one in Santa Cruz, Calif., were but recently completed and equipped.

The establishment in Clearwater, Fla., and Jamestown, N. Y., of two new representatives for the **Bryant Heater Co.**'s line of gas-fired heating equipment is announced by James N. Crawford, vice president in charge of sales for the company.

In Jamestown, Philip W. McCoy has established the Bryant-McCoy Co. at 10th and Monroe Sts. Mr. McCoy has been engaged in the design and

development of domestic heating equipment since 1927, both with Bryant Heater Co. and, previously, with Surface Combustion Corp.

The Bryant-Schaack Co. has been established at 1011 Pine Brook Drive in Clearwater by Paul J. Schaack, who has been with Bryant Heater since 1934, in Cleveland and in Pittsburgh. He served during the war years as assistant to the director of the Plumbing and Heating Division of the WPB.

An attractive and informative sales maker on LP-Gas has been issued by the **Tappan Stove Co.** and has been sent to all of the firm's dealers.

Entitled, "Key to Kitchen Freedom With Tappan LP-Gas Ranges," it explains that LP-Gas is more convenient, dependable, economical, faster, cleaner and assures modern healthful cooking and allows greater kitchen freedom for those living beyond the regular gas mains.

The book points out that in 10 years, over 2,000,000 homes have acquired the benefits for LP-Gas. This phenomenal acceptance was accomplished in only half the time required by either natural gas or electricity to obtain the same number of users.

Servel, Inc., Evansville, Ind., has made several changes in its regional personnel, according to an announcement by George S. Jones, Jr., vice president in charge of sales. All changes became effective March 1.

C. A. Miller, who has been Servel West Coast regional manager for 11 years, headquartering in San Francisco, has resigned to become a Servel distributor in Los Angeles.

Operating as Gas Appliances, Inc., Mr. Miller will take over the distribu-

tion of the Servel refrigerator, water heater and kitchen accessories. Mr. Miller has been with Servel since its earliest days, serving in various capacities in the service and sales division.

Seward Abbott, now Servel regional manager in Dallas, Tex., has been appointed to succeed Mr. Miller as West Coast manager. He has been associated with Servel since 1926.

W. K. Grube, present regional manager in Evansville, will go to Dallas to replace Mr. Abbott and O. F. Keune, currently district manager, with headquarters in Atlanta, has been appointed to succeed Mr. Grube. Mr. Grube has been with Servel since 1934. Mr. Keune joined the company in December, 1945, after his discharge from the Army. Prior to that he had been with the Florida Light and Power Co. for 17 years.

A new master kit of "Punch-Lok" bands which will serve practically every need for clamping or banding

rubber hose to nipples and fittings and for a wide variety of general repair applications is now being merchandised by the **B. F. Goodrich Co.**, Akron, Ohio.

Each kit contains a quantity of both open-end and preformed Punch-Lok bands which will find application in many industries and on the farm, where many repairs can be made with this handy clamping device and method.

Alfred G. Birkenmeier, vice president of the **Anderson Stove Co., Inc.**, of Anderson, Ind., announces through the Anderson Sales Co., Inc., of Irvington, N. J., national sales agents of Anderson stoves, the appointment of Thomas P. Nickell as sales manager of the Midwestern territory.

This Midwestern regional territory will consist for the present of Ohio, Michigan, Illinois, Indiana, West Virginia and Kentucky. Headquarters for this territory will be at 1105 Inland Building, Indianapolis. Plans call for an early opening for a display and office in the Chicago area.

Albert C. Roeger, 54, superintendent of the Lorain division **American Stove Company**, and an employe of the company for 40 years, died Jan. 20 at the wheel of his automobile.

Mr. Roeger was formerly employed by the Dangler branch of the American Stove Co. in Cleveland and was transferred to the Lorain division in 1935 as foreman of the tin shop. He began at 14 in the Dangler blacksmith and band iron shop.

Texas Dealers Lay Plans For High Standards

Plans for a suggested code of ethics which could be used by the LP-Gas industry were started at a recent

meeting of the Ethics and Improved Business Practices Committee of the Texas Butane Dealers Association.

Discussion was along the line that all good, honest and fair activities of a dealer would contribute to the ethical operation of the industry. Topics discussed included sale and installation of unapproved appliances and systems, improperly trained personnel, the sale of systems too small to do the job properly, the question of credit risk, and many others.

Walter H. Miller Joins Illinois Bottled Gas Co.

B. D. Geroy, general manager of the Illinois Bottled Gas Co., Chicago, announces the appointment of Walter H. Miller as sales manager of their bulk service division, now being developed.

W. H. MILLER

Mr. Miller, an alumnus of the University of Illinois with a degree in gas engineering, has years of experience in LP-Gas, mainly in industrial and heavier load utilization. His ability and his knowledge of the industry's requirements have been recognized by appointment to various association boards and committees.

In his new capacity Mr. Miller assumes responsibility for the organizing and ultimate functioning of the proposed "Dri-Gas" bulk service division. This service, according to present plan, should be available to dealers in several Dri-Gas operating districts sometime in April. It will be extended to embrace the entire Dri-Gas territory as fast as additional facilities permit.

Abnormal Gas Range Demand Accounts for Shortages

D. S. Sharp, assistant sales manager of the Tappan Stove Co., Mansfield, O., stated in Cincinnati lately that the shortage of gas ranges has been caused primarily by the pressure of an abnormally heavy demand rather than the lack of normal production.

Speaking before home service and sales personnel of gas utilities throughout the nation attending the American Gas Association's Home Service Convention, Mr. Sharp pointed out that in 1946, according to the Gas Appliance Manufacturers' Association, approximately 1,600,000 gas ranges were produced.

"This figure represents as many ranges as were manufactured during any year in the history of the gas range industry with the exception of 1941. Production last year was 70% of 1941, which was the industry's peak year," Mr. Sharp said.

Citing GAMA figures, it was pointed out that today there are nearly 12,500,000 homes using obsolete ranges more than 10 years old, which is equivalent to the total production of the entire gas range industry from 1932-1941.

"It is apparent," he remarked, "that production of gas ranges will be required to double the pre-war rate for at least the next six years to replace existing ranges over 10 years old, to take care of families switching to gas from other fuels and to provide for the gas industry's share of millions of new dwellings that are expected to be erected within that time."

It was emphasized that shortages of basic materials prevent gas range manufacturers from expanding production sufficiently to meet the unprecedented demand.

Personnel Changes Occur At National LP-Gas Institute

Recent changes in the management of the National LP-Gas Institute at Tulsa, Okla., include the election of Robert D. Lemonds as vice president and treasurer.

Mr. Lemonds served in the air corps during World War II and is now a part owner and instructor. C. W. Level has disposed of his interests in the institute and is now connected with the Universal Gas Equipment Co., Wichita, Kan. F. E. Farley is president of the school.

Mr. Lemonds has a diversified experience and educational background. He was formerly employed in the pipe line departments of the Magnolia Petroleum Co., the Cities Service Oil Co., and the Texas Co. He has been head of the mathematics department of the Bristow, Okla., public schools; an instructor of science at Zanies Consolidated school at Wilson, Okla.; head of the science department in the Hartshorne, Okla., public schools and a teacher of physics in the summer school of Southeastern State Teachers College at Durant, Okla.

Bud Scott, a recent graduate from the National LP-Gas Institute, has been appointed as an instructor in the school. A correspondence course has been added by the institute for the benefit of LP-Gas employers and employes who wish to take instruction while at their work. The school is located at 1109 S. Main in Tulsa.

Florida Company Installs Two New 30,000-Gal. Tanks

The Gas-Oil Products Co. of Florida, with offices in Miami, Ft. Lauderdale, Coral Gables, West Palm Beach, Delray Beach, Ft. Pierce, and Homestead, has recently built in Homestead the

first of a pair of 30,000 gallon tanks to take care of the greatly increased business of this firm. These are located at the plant site on Federal Highway No. 1.

Heading the Homestead branch is Victor S. Cook who was educated at the University of Toronto.

Gas-Oil operates a retail store in which can be found practically everything on the market of a gas or electrical nature needed to make home and farm life and work easier on the user. All kinds of restaurant equipment is also on display and for sale.

CNGA Organizes Chapter In Ventura, Calif.

The formation of a second California Natural Gasoline Association Chapter has been announced by CNGA president M. W. Kibre. It will be known as the Coastal Chapter and will meet on the third Wednesday of each month at Ventura. C. L. Case, Continental Oil Co., is chairman and G. C. Elmore, Tide Water Associated Oil Co., secretary.

Present to wish the new chapter success were Chairman George Howells and H. V. Cowger of the Taft Chapter; and CNGA vice president Frank Colton, secretary-treasurer George Tyler, membership chairman David Conklin, and director C. L. Hutchings, all of the parent organization, Los Angeles.

Tulsa University Will Hold Second Short Course Next Fall

Dr. F. T. Gardner, University of Tulsa, announces that the 1947 Liquefied Petroleum Gas Appliance Short Course will be held in Tulsa this year sometime in the fall.

Crowded instruction schedules at the university preclude holding the

short course during the spring or summer, Dr. Gardner, who again will be director of the course, said.

The 1947 Natural Gas Appliances Short Course will be held in Tulsa May 26-28, also sponsored by the University of Tulsa, Dr. F. T. Gardner, director. This course is sponsored by the Southern Gas Association.

Shell Will Increase LP-Gas Production at Magnolia, Ark.

Butane and propane gas production of the Shell Oil Co. at its plant near Magnolia, Ark., will be substantially increased by an immediate $500,000 expansion in facilities announced Jan. 25 by officials of the company through the Arkansas Economic Council, of Little Rock, Ark.

The company will begin erection of a natural gas booster station in Village Field, 12 miles east of Magnolia, soon. A pipe line from the station to the Shell plant near Magnolia will be constructed and the gasoline plant at that point will be expanded to process the additional gas.

Present daily capacity of the Shell plant is 35,000 gallons of gasoline, 20,000 gallons of butane gas and 1500 gallons of propane gas.

Louisiana Butane Business Sets New State Record

Louisiana's "butane" business, providing light and heat for thousands over the state, broke all records in 1946. W. J. Fischer, New Orleans banker and chairman of the state liquefied petroleum gas commission, reported at a meeting of that body recently.

Mr. Fischer cited estimates by W. U. Moss, department director, that permits for new installations last year reached 23,946, compared with only 6400 in 1945.

CLASSIFIED

Classified advertising is set in 6-point type, without border or display, at the rate of 15 cents per word per insertion: minimum charge per insertion $3. Box numbers for replies count as 5 words. Count as a word each one letter word and each group of figures. Classified advertising is only accepted when payment accompanies order. Copy and payment must reach publisher's office prior to 10th of month preceding publication.

Free to World War 2 Veterans: Situation wanted ad for three successive months.

HELP WANTED

QUALIFIED MAN FOR POSITION AS GENeral manager L.P. gas business, business just being set up in southeastern United States, opportunity to advance as business grows. Prefer man with at least 2 years college education and several years actual experience in the business, not over 45. Reply to Box 15, BUTANE-PROPANE *News*, 1709 W. 8th St., LA 14.

EXPERIENCED MAN DESIRED BY REPUtable oil company for managing a new LP Gas operation in the Far East. Experience in operation, distribution, installation, conversion as well as marketing essential. Excellent opportunity. Single man preferred. In replying state all personal data, education and experience. Write Box 20, BUTANE-PROPANE *News*, 1709 W. 8th St., Los Angeles 14.

WANTED—YOUNG MAN, ENGINEERING education, with ability to write reports and make contacts. Preferably with publication experience. $300.00 per month. Give complete details of education and business experience in first letter. Address Box 25, BUTANE-PROPANE *News*, 1709 W. 8th St., Los Angeles 14, Calif.

SITUATIONS WANTED

GAS ENGINEER—EXPERIENCED IN CONstruction, operation and sales, seeks connection with progressive LP-Gas Organization, 55 years of age, best references. Box 280, BUTANE-PROPANE *News*, 1709 W. 8th St., Los Angeles 14, California.

BUSINESS OPPORTUNITIES WANTED

"HAVE $10,000 PLUS—TO INVEST IN active partnership. Full details in first letter please." c/o BUTANE-PROPANE *News*, Box 5, 1709 W. 8th St., Los Angeles 14, Calif.

WANTED TO BUY—SMALL ESTABLISHED Butane-Propane business. Write Box 10, BUTANE-PROPANE *News*, 1709 W. 8th St., L.A. 14.

WANTED: GAS AND ELECTRICAL APPLIance franchises for Southern New England. Large distributor of bottled gas with huge warehousing facilities and railroad siding desires additional dependable lines. Contact the Hendel Petroleum Co., Main office & plant. Great Neck Road, WATERFORD, CONNECTICUT.

EQUIPMENT FOR SALE

BRASS FITTINGS—FLARE AND COMPRESsion type for copper tubing. Prompt shipment from Atlanta stock. Write for catalog and prices. Also copper and Everdur bronze soft annealed tubing. GENERAL STEEL PRODUCTS CO., BOX 4703, ATLANTA, GA.

WHOLESALE—IMMEDIATE DELIVERY ON flared fittings, made of brass bar stock, all sizes. Tubing, flare tools. Write for prices. Schaaf Bros., Osborn, Ohio.

FOR SALE: BUTANE & PROPANE GAS business in Idaho. Fastest growing business in States. Doing $25,000 a month, yr. average. Best merchandising area known. Outlet for merchandise in 5 stores. Two Chevrolet delivery trucks. 21,000 gal. bulk storage on railroad. $60,000.00 cash or good terms. Information, write Box 365, Fresno 8, Calif.

FOR SALE: BUTANE TRANSPORT 1946 25T Reo Tractor with 4000 gal. W.C. twin butane tanks. Truck has - 25,000 mileage.

1945 453 GMC Propane delivery truck with 1100 gallon W.C. Twin Tanks complete with Brodie meter, pump and power take-off.

1945 1½ ton Dodge Butane delivery truck with 1100 gallon W.C. twin tanks complete with Brodie Meter, pump and power take-off.

Write for prices. P.O. Box 277, Delhi, La.

FOR SALE: 300—60,000 B.T.U. TEMCO Circulating Heaters—Natural or Butane Gas. These heaters are Army surplus and are in good condition. $25.00 each and $2.00 each for crating. Sold in any amount. Gaines Butane Equipment Co. P. O. Box 1749, Okmulgee, Oklahoma.

EQUIPMENT WANTED

WANTED: FORTY HORSE POWER 220 volt 3 phase 60 cycle class 1-1760 R.P.M. Induction Motor. G. E. or Westinghouse for hazardous location. Totally enclosed—Fan cooled. Motor to have underwriters laboratory incorporation approval on plate. State age and condition of motor also if any repairs have been made. Butane Gas Plant, Alexander City, Alabama.

FOR SALE: 2 TRANSPORTS 3600 GALLON water capacity, 125 lb. working pressure. These trucks were built in 1946 and are in perfect condition. $11,000 each. Gaines Butane Equipment Co., P.O. Box 1749, Okmulgee, Oklahoma.

FOR SALE — CAB-OVER-ENGINE 1941 model 1½ ton Chevrolet, 8.25x20 dual tires, Ruckstell axle, 1100 gallon 100 lb. working pressure tank, complete with meter, pump and hose. Also a K5 International with 1000 gallon 80 lb. butane tank, complete as above. Both are in excellent condition and priced for quick sale. GUADALUPE GAS COMPANY, P. O. BOX 328, SEGUIN, TEXAS.

FOR SALE — USED BUTANE-PROPANE cylinders, 40 lb. capacity. For further information write BURDETT OXYGEN COMPANY, 3300 Lakeside Ave., Cleveland 14, Ohio.

FOR SALE: STOVE ORIFICES, ¼, ⅜ AND ½ flare nuts and other L.P.G. fittings. Write FUELGAS CO., 5905 N. Saginaw St., Flint, Michigan.

FOR SALE—TANKS—FITTINGS—FOR IMmediate delivery—150 gallon Butane Tanks and fittings, also 250 and 500 gallon Propane tanks and fittings. For Delivery in 30 days—750 gallon and 1000 gallon Propane Tanks and Fittings. KENNY TANK INSTALLATION CO., 2132 No. Halstead St., Chicago 14, Ill.

FOR SALE: BUTANE TRANSPORT 3550 water capacity. 125 lb. W.P. U-69 Code. For immediate use. C. W. Holland, 311 Garrison St., Leland, Mississippi.

FOR SALE: 1944 G.M.C. 2½ TON PROPANE tank truck, twin 606 Gal. Tank. Complete with Pump, Meter, Ensign L.P.G. Carburetion. Very good condition and good rubber—$2500.00. Northern Oklahoma Butane Co., Box 309, Perry, Oklahoma.

FOR SALE: BUTANE DISPENSING SYSTEM complete with 12,000 gross underground tank, turbine pump, liquid meter and hose; a bargain—write Box 1, BUTANE-PROPANE *News*, 1709 W. 8th St., Los Angeles 14, Calif.

FOR SALE: PROPANE BOTTLING PLANT on wheels, 1939 White tractor with sleeper cab and power takeoff attached to Smith pump for filling cylinder or unloading, with propane carburetor and 80 gal. propane fuel tank.

Trailer twin tank 1500 water gals. each built by McNamar Boiler in 1944. Working pressure 200 lbs. under U69. Never been bumped. All on 10.00-20 tires. Rural Gas Service, 2517 Hartzell St., Evanston, Illinois.

FOR SALE: 1941 INTERNATIONAL K-5 Ensign equipped, 1430 gallon butane tank. Good tires and running order. Complete with hose and pump. $2250.00. Also 200 lb. Propane Bottles $37.50. Butane Gas Delivery Co., Inc., Pauline, Kansas.

Oklahoma News Notes

Several LP-Gas dealers in Oklahoma are planning expansions, the "Southwest L-P Gas News," official organ of the Oklahoma Association, announces. These include:

The Oklahoma Liquefied Gas Co., of Seminole, and Butane Consolidated, of Oklahoma City, have increased sizes of their installations at McAlester. S. R. Hughes has been moved to McAlester as local manager, by the Seminole firm. C. N. Kelley has been named to manage Butane Consolidated operations at McAlester and Coalgate.

Dale-Wallace Butane Gas Co., of Atoka, is extending its operations to include Coalgate and vicinity.

Emmett Wilkins and Cecil Naylor, who have been operating the Kay Butane-Propane Co., at Nardin, have purchased a 160-foot front on South Main St. in Blackwell and will erect an office and display room on the location. Already installed is a 30,000 gallon bulk storage plant.

Dyer Butane Gas Co., of Lawton, has recently completed a new store and display room on the main highway through town.

Ticer Butane Co. will construct a store and display room for its branch at Buffalo, Carl Ticer, Woodward, president of the company, announces. Carl Ratliff will manage the Buffalo branch.

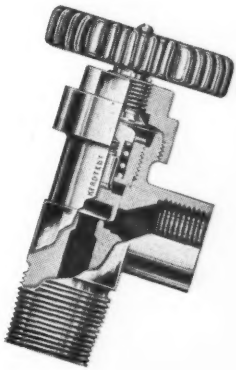
Harold Ford, who has been associated with the L. F. Peck Appliance Co., at Boise City, has purchased the holdings of Mr. Peck and is now operating the business under the name of Ford Incorporated.

Hardy McKinney is planning to open a butane and propane business at Leed, Okla. He will handle tanks and appliances as well as gases.

ADVERTISERS

Compact • Safe • Economical

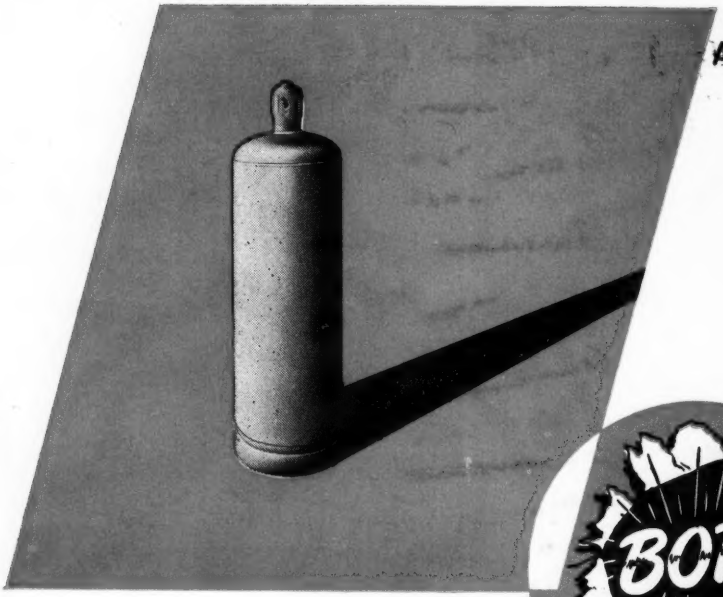
KEROTEST knows the gas business . . . is one of the oldest manufacturers of forged brass valves for control of compressed gases. Backed by a lifetime of experience . . . KEROTEST LP-Gas Valves and Fittings are designed compactly to adapt to the most streamlined heads . . . provide complete safety . . . offer economy in original cost and maintenance.



KEROTEST

KEROTEST MANUFACTURING COMPANY
PITTSBURGH 22, PENNSYLVANIA

AMERICA'S FIRST NAME IN QUALITY VALVES



Too much GAS!

IT can happen! Loaded in the cool dawn. Standing in the midday sun. Too much gas. BOP! Like the picture.

Why would anyone put in too much gas when the weights are clearly marked on the cylinder?

The answer is that nobody does if the weights are *clearly* marked. Clear markings, made by our own especially developed process, are a feature of Trageser Tanks. Trageser markings are thoroughly legible even when filled with paint. You can *always* read them clearly.

No BOP! with Trageser Tanks.

TANKS BY TRAGESER

Everyone handling LP-Gas Cylinders should be familiar with all Safety Precautions. Trageser Copper Works will be glad to send you a copy of the newly revised edition of Pamphlet No. 58 on the handling of LP-Gas Equipment, as prepared by the National Board of Fire Underwriters.

TANKS by TRAGESER

Trageser Copper Works, Inc., 5000 Grand Avenue, Maspeth, L. I., New York